

July 12, 1996

Utah Division of Oil, Gas & Mining  
1494 West North Temple, Suite 1210  
Box 145801  
Salt Lake City, UT 84114-5801

Attn: Brad Hill

Re: The Anschutz Corporation  
AL&L #4-30  
Sec. 30, T5N - R8E  
Summit County, Utah

Dear Brad,

As you will recall, the subject location was moved approximately 100 feet in order to reduce cut on location and comply with state spacing requirements. As you requested, enclosed please find three copies each of the revised A.P.D., survey plat, wellpad diagram with cuts and fills, cross sections and access map.

A copy of the water permit will be submitted by Larry Williams under separate cover. If you should need anything further, please don't hesitate to contact me.

Sincerely,

PERMITCO INC.

Lisa L. Smith  
Consultant for:  
The Anschutz Corporation

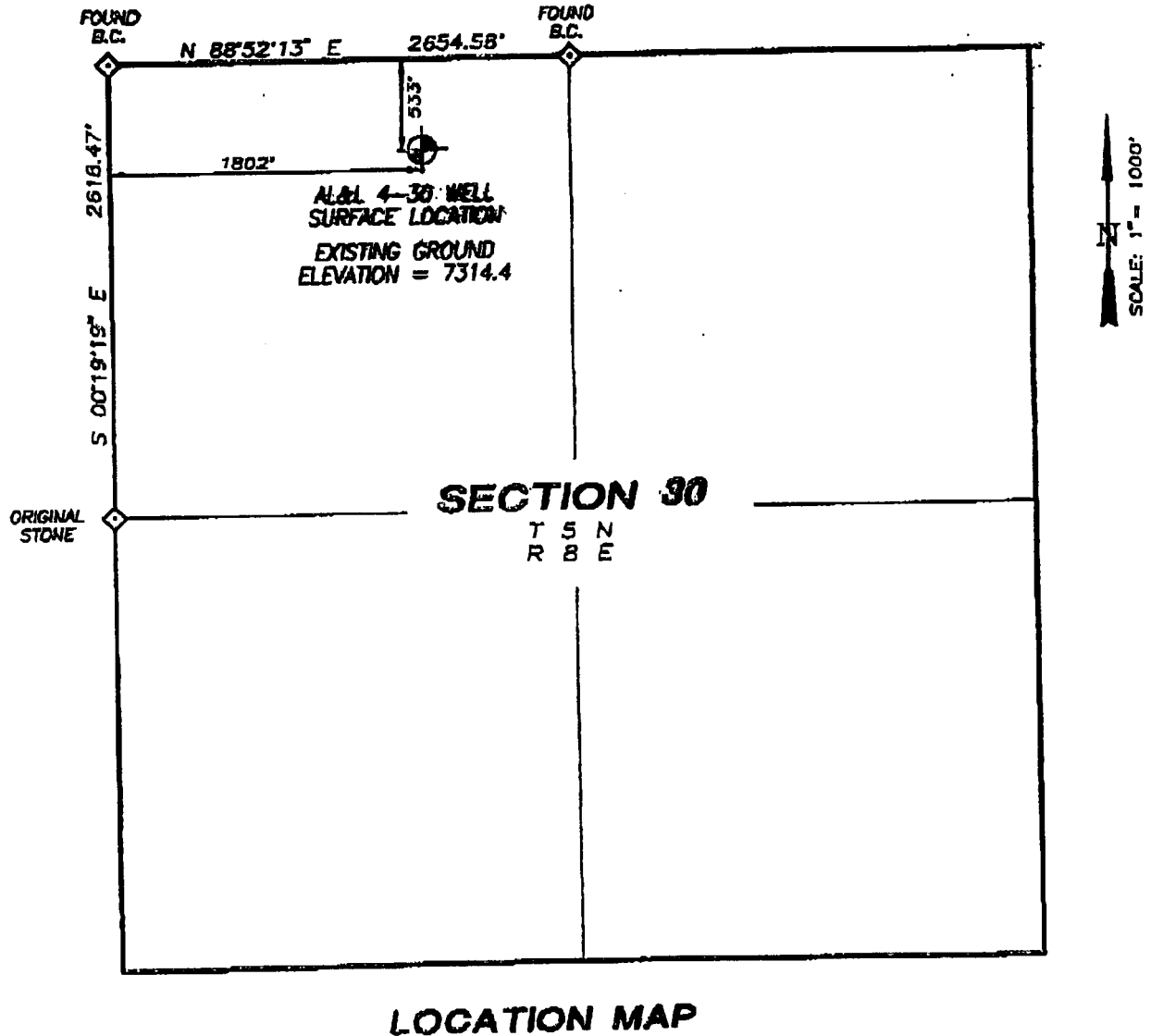
Enc.

cc: The Anschutz Corporation - Denver, CO  
Mr. Larry Williams - SLC, UT

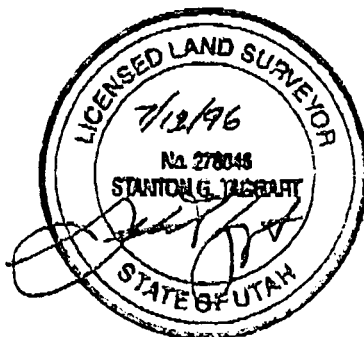
Permitco Incorporated  
A Petroleum Permitting Company

13585 Jackson Drive Denver, Colorado 80241 (303) 452-8888





SURVEYED UNDER MY SUPERVISION  
IN JULY 1996

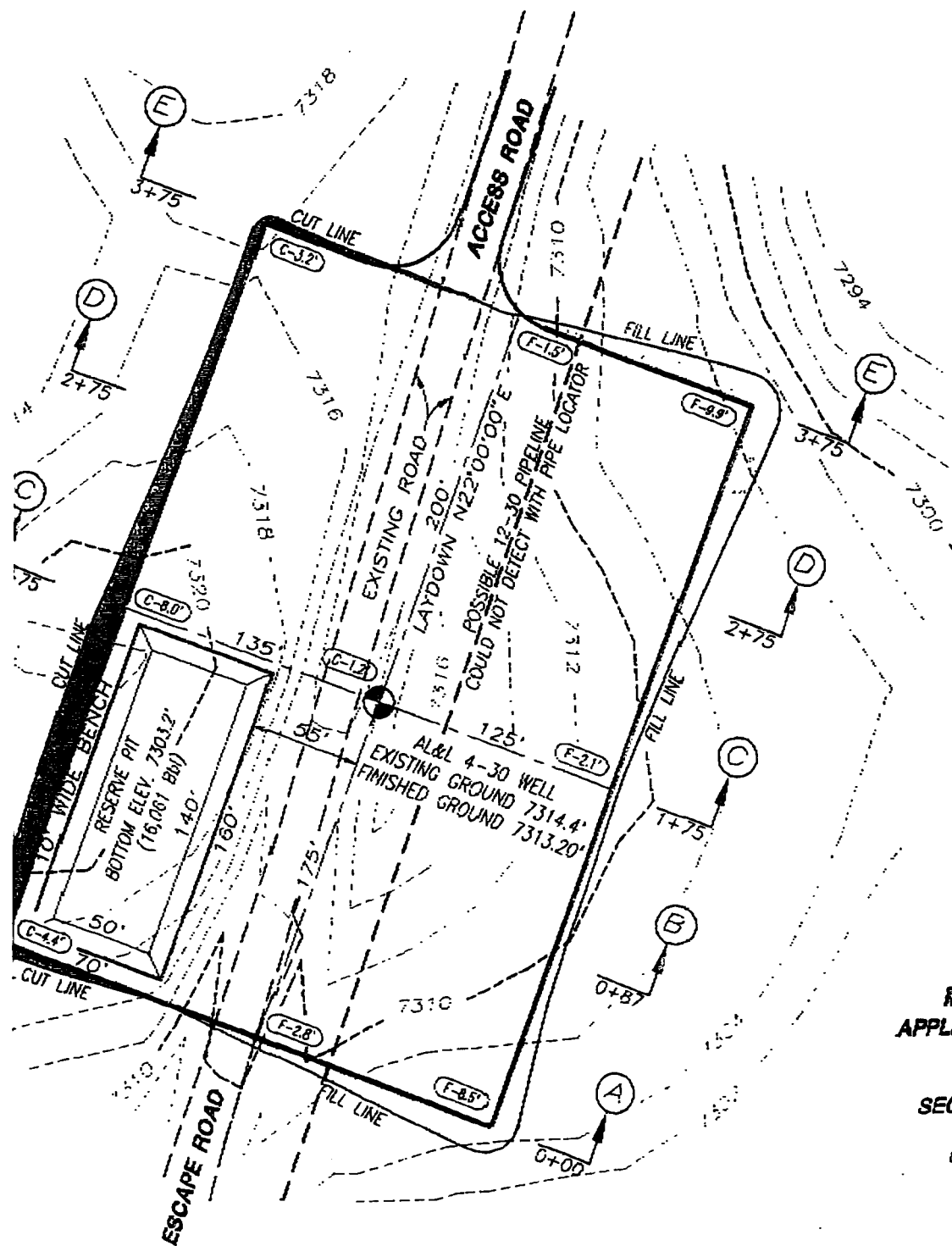


**MAP to ACCOMPANY  
APPLICATION for PERMIT to DRILL  
AL&L 4-30 WELL  
533' FNL 1802' FWL  
SECTION 30, T5N, R8E, SLB&M  
SUMMIT COUNTY, UTAH**

UINTA ENGINEERING & SURVEYING, INC.  
808 MAIN STREET  
EVANSTON, WYOMING 82930  
(307) 789-3602

DRAWN BY Brent Sorenson  
DATE: 07/10/96 JOB # 43-10-03  
DSK # 110-9 FILE 93-10-03

DRAWN BY Brent Sorenson



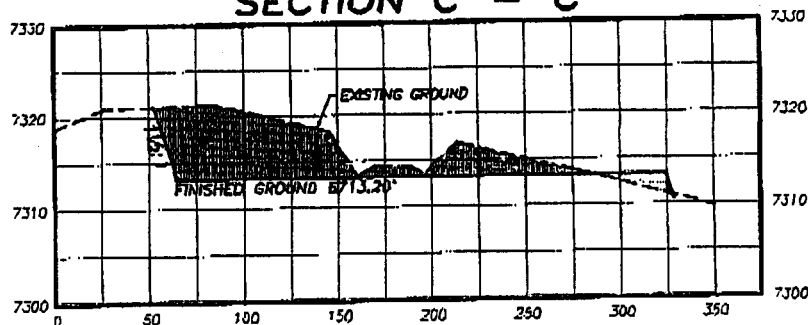
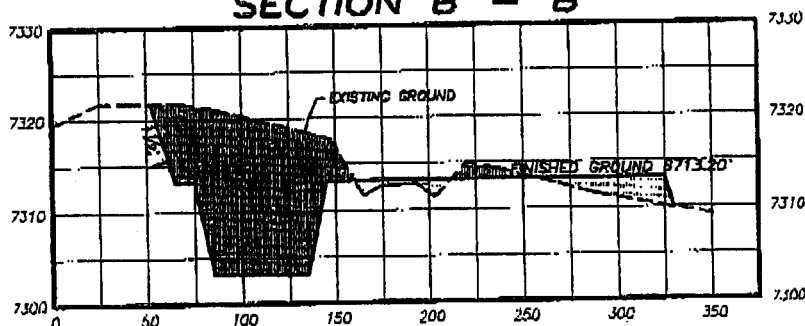
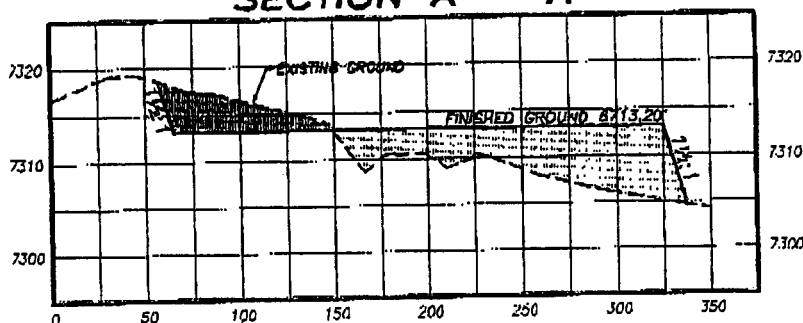
**MAP to ACCOMPANY  
APPLICATION for PERMIT to DRILL  
AL&L 4-30 WELL  
533' FNL 1802' FWL  
SECTION 30, T5N, R6E, SLB&M  
SUMMIT COUNTY, UTAH**

UNTA ENGINEERING & SURVEYING, INC.  
808 MAIN STREET  
EVANSTON, WYOMING 82930  
(307) 789-3602

DATED 07/18/96 JES & RS-16-03  
DSK A 118-3 FILE: 85-16-03

DRAWN BY: David Stedman

SHEET 2 OF 3

**SECTION C - C****SECTION B - B****SECTION A - A**

**MAP to ACCOMPANY  
APPLICATION for PERMIT to DRILL  
AL&L 4-30 WELL  
533' FNL 1802' FWL  
SECTION 30, T5N, R8E, SLB&M  
SUMMIT COUNTY, UTAH**

UINTA ENGINEERING & SURVEYING, INC.  
808 MAIN STREET  
EVANSTON, WYOMING 82930  
(307) 789-3602

DATE: 07/10/96 JOB #: 95-19-03  
DSK #: 116-B FILE: 95-19-03

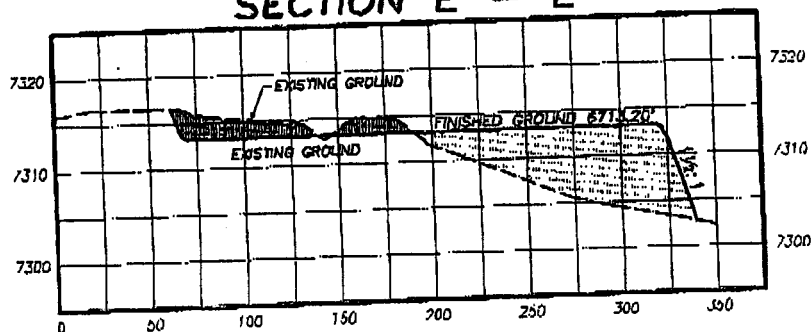
DRAWN BY: Brent Sanders

SHEET 3 OF 5

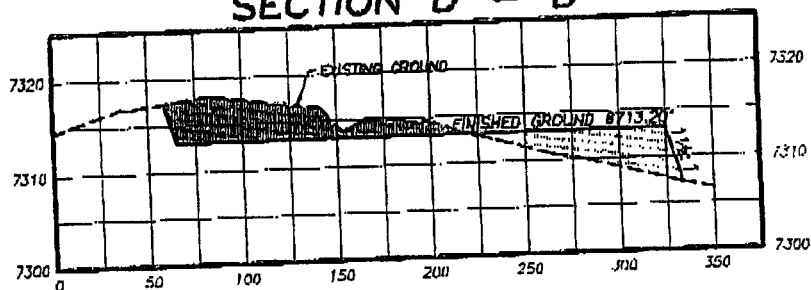
SCALE:  
HORIZ: 1" = 100'  
VERT: 1" = 20'

ALL CUT SLOPES ARE 1 1/2 : 1 (UNLESS OTHERWISE NOTED)  
ALL FILL SLOPES ARE 1 1/2 : 1

## SECTION E - E



## SECTION D - D



**MAP to ACCOMPANY  
APPLICATION for PERMIT to DRILL  
AL&L 4-30 WELL  
539' FNL 1802' FWL  
SECTION 30, T5N, R9E, SLB&M  
SUMMIT COUNTY, UTAH**

UINTA ENGINEERING & SURVEYING, INC.  
808 MAIN STREET  
EVANSTON, WYOMING 82930  
(307) 789-3602

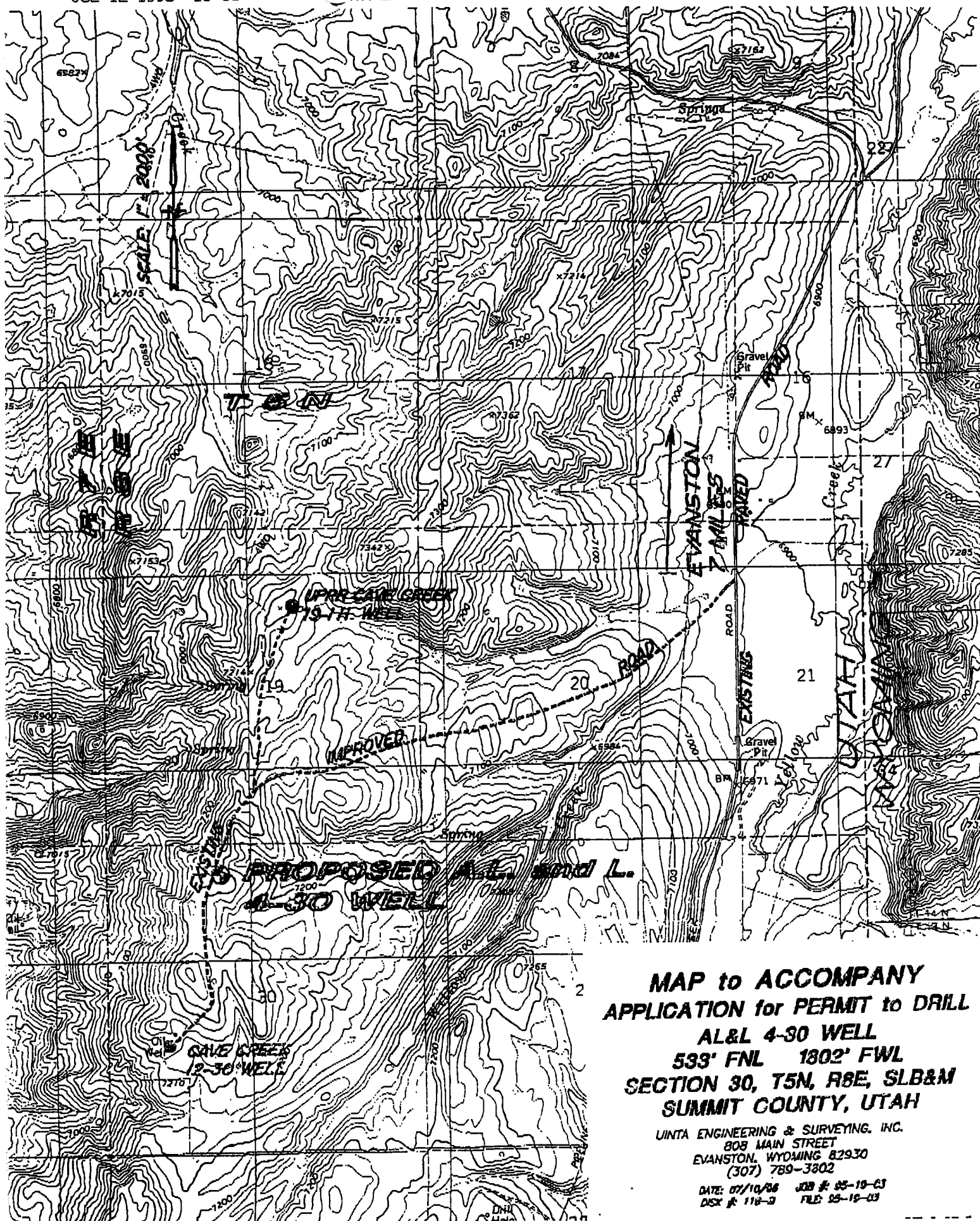
DATE: 07/10/98 JOB #: 05-19-03  
DISK #: 118-B FILE: 05-19-03

SCALE:  
HORIZ: 1" = 100'  
VERT: 1" = 20'

ALL CUT SLOPES ARE 1½ : 1 (UNLESS OTHERWISE NOTED)  
ALL FILL SLOPES ARE 1½ : 1

DRAWN BY: Brent Sanders

SHEET 4 OF 5



**MAP to ACCOMPANY  
APPLICATION for PERMIT to DRILL  
AL&L 4-30 WELL  
533' FNL 1802' FWL  
SECTION 30, T5N, R8E, SLB&M  
SUMMIT COUNTY, UTAH**

UNTA ENGINEERING & SURVEYING, INC.  
808 MAIN STREET  
EVANSTON, WYOMING 82930  
(307) 789-3802

DATE: 07/10/86 JOB #: 85-19-CJ  
DISK #: 118-D FILE: 03-19-03

TOTAL P.08



2400 ANACONDA TOWER · 555 SEVENTEENTH STREET · DENVER, COLORADO 80202 · 303-298-1000 · FAX 303-298-8881


July 22, 1996

Brad Hill  
Utah Division of Oil, Gas & Mining  
1494 W. North Temple, #1210  
Salt Lake City, UT 84114-5801

RE: AL&L 4-30, Section 30, T5N, R8E, Summit County, UT  
Surface Use Agreement Certificate

It is hereby certified that conditions of surface use for the above-captioned proposed well have been determined and agreed to by the applicant, Anschutz Exploration Corporation, and the surface owner.

Sincerely,

  
Miles A. Williams  
Executive Vice President



**H2S Contingency Plan**

**for**

**A L & L # 4-30**

**Township 5N, Range 8E**

**Section 30**

**Summit County, Utah**

**Anschutz Exploration Corporation  
555 17th St. Suite 2400  
Denver, CO. 80202**

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## **Introduction**

It is the policy of Anschutz Exploration Corporation to provide a safe and healthful work environment for all of its employees as well as contractors that may work on Anschutz leases. Anschutz Exploration Corporation makes a continued effort to comply with laws and regulations relative to worker safety and health, and to manage all operations in a manner to reduce risk.

The following is a H<sub>2</sub>S contingency plan for the Anschutz A L & L # 14-33 well. It is designed for personnel working on this project to follow in case of an accidental release of hydrogen sulfide during drilling and or completion operations. For the plan to be effective, all personnel must review and be familiar with onsite duties as well as the safety equipment involved.

The purpose of this plan is to act as a guideline for personnel working on the wellsite in the event of a sudden release of hydrogen sulfide. All personnel working on the wellsite as well as service personnel that may travel to location on an unscheduled basis must be familiar with this program. The cooperation and participation of all personnel involved with the drilling operation is necessary for this plan to be effective.

This plan shall incorporate the existing Emergency Response Plan of the Union Pacific Resources Wahsatch Gathering system as it pertains to the Public Safety in the event of any atmospheric release of H<sub>2</sub>S. It is imperative that the WGS Control Room be contacted as soon as possible in the event of any release so this plan can be implemented.

Directions to location:

## **I. Duties & Responsibilities**

In order to assure proper execution of the contingency plan, it is essential that one person be responsible for and in complete charge of implementing the procedures outlined in this plan. The order of responsibility will be as follows:

1. Anschutz Exploration Corporation drilling representative on location - if unable to perform his/ her duties
2. Alternate Anschutz representative - if unable to perform his/ her duties
3. Rig Toolpusher/ Supervisor - if unable to perform his/ her duties
4. Safety consultant representative- if available

### **A. All Personnel**

1. Always be alert for possible H<sub>2</sub>S alarms- both audible and visual.
2. Be familiar with location of Safe Briefing Areas (SBA) and protective breathing equipment.
3. Develop a "wind awareness". Be aware of prevailing wind direction as well as nearby uphill areas, should there be no wind.
4. Familiarize yourself with nearest escape routes for safe evacuation
5. Should H<sub>2</sub>S alarm sound, DON'T PANIC - Remain calm and follow instructions of person in charge.
6. If the H<sub>2</sub>S alarms sound:
  - a. Essential personnel shall don the appropriate respiratory protective equipment and follow company procedures. Essential personnel will continue to wear respiratory protective equipment until the area is deemed safe (H<sub>2</sub>S concentration less than 10 PPM)
  - b. Non-essential personnel shall evacuate to the appropriate safe briefing area using escape breathing systems. Wait there for further instructions from Anschutz drilling representative.
  - c. Initiate rescue protocol if necessary- following training procedures.

## **B. Drilling Foreman**

1. The Anschutz drilling foreman will confirm that all personnel on location are trained in H2S safety and aware of above list of duties when the H2S plan becomes effective at 300 feet above the Dinwoody Formation.

2. The Anschutz foreman will ensure that all safety and emergency procedures are observed by all personnel.

3. The Anschutz foreman will make an effort to keep the number of personnel on location to a minimum and to ensure that only essential personnel are on location during critical operations.

4. Should any extreme danger condition exist, the Anschutz foreman will:

a. Assess the situation and advise all personnel by appropriate means of communication.

b. Be responsible for determining that the extreme danger condition is warranted and the red flag shall be posted at location entrance.

c. Go to safe briefing area and give clear instructions relative to hazard on location, and actions for personnel to follow.

d. Notify company and regulatory groups of current situation as outlined in company protocol. Notify WGS Control Room to activate WGS Emergency Response Plan.

e. Proceed to rig floor and supervise operations with rig supervisor. Take action to control and reduce the H2S hazard.

f. Ensure that essential personnel are properly protected with supplied air breathing equipment and that non-essential personnel are in a "poison gas free" area.

g. Be responsible for authorizing evacuation of persons/ residents in area surrounding the drilling location.

h. Commence any ignition procedures if ignition criteria are met.

## **C. Rig Supervisor- Toolpusher**

1. If the Anschutz drilling foreman is unable to perform his/ her duties, and the alternate drilling foreman is also unable or unavailable to perform his duties, the drilling rig Toolpusher will assume command of wellsite operations and all responsibilities listed above for drilling foreman.

2. Ensure that all rig personnel are properly trained to work in H2S environment and fully understand purpose of H2S alarms, and actions to take when alarms activate.

Ensure that all crew personnel understand the buddy system, safe briefing areas, and individual duties as well as emergency evacuation procedures.

3. Should an extreme danger operational condition arise, the rig Toolpusher shall assist the Anschutz foreman by:

- a. Proceeding to the rig floor and assist in supervising rig operations.
- b. Ensure that only essential working personnel remain in hazardous areas.
- c. Ensure that all crew members that remain in hazardous area, wear respiratory protective equipment until notified that area is "clear" of any toxic gases.
- d. Assign rig crew member or other service representative to block entrance to location. No unauthorized personnel will be allowed entry to location.
- e. Help to determine hazardous "danger zones" on location using portable detection equipment and position electric fans to move gas in any high concentration areas.

#### **D. Safety Consultant**

1. During normal operations (no H<sub>2</sub>S present), the safety consultant will be responsible for the following:

- a. Ensure that all wellsite safety equipment is in place and operational.
- b. Ensure that all wellsite personnel are familiar with location safety layout and operation of all safety equipment.
- c. Assist the Anschutz foreman in performing weekly H<sub>2</sub>S drills for location personnel.

2. When an operational condition is classified as extreme danger, the safety consultant will be responsible for the following:

- a. Account for all wellsite personnel
- b. Assess any injuries and direct first aid measure.
- c. Ensure that all safety and monitoring equipment is functioning properly and available.
- d. Monitor the safety of wellsite personnel
- e. Maintain a close communication with Anschutz foreman.
- f. Be prepared to assist Anschutz foreman with support for rig crew or other personnel using breathing equipment.
- g. Be prepared to assist Anschutz foreman with emergency procedures including possible well ignition.
- h. Be prepared to assist with evacuation of any area residents or other personnel working in the immediate area.

#### **E. Union Pacific Resources Co- Wahsatch Gathering System Office**

1. The Union Pacific Resources Co- Wahsatch Gathering System operations control room will be notified of any release of H<sub>2</sub>S by the Anschutz Operations Superintendent as well as other Anschutz Exploration Co supervisory personnel. The Union Pacific Resources Co- Wahsatch Gathering System Operations Control room will be responsible for notifying and maintaining contact with the Uinta County Fire Protection Agency as outlined in their Emergency Response Plan for the Public Protection in the event of an H<sub>2</sub>S release. This plan incorporates a Memorandum of Understanding between Summit County, Utah and Uinta County, Wyoming, that the primary responder to any event pertaining to the Wahsatch Gathering System will be the Uinta County Fire Protection Agency.

2. The Anschutz drilling foreman will maintain communications with the UPRC-WGS control room to coordinate with any other assistance that might be required.

3. Travel to wellsite if appropriate

## **II. Drilling Rig Layout**

### **A. Location**

1. All respiratory protective equipment and H2S detection equipment will be rigged up 3 days or 500 feet prior to entering the first zone suspected to contain hydrogen sulfide. The rig crews and other service personnel will be trained at this time.

2. The drilling rig will be situated on location to allow for the prevailing winds to blow across the rig toward the circulation tanks or at right angles to the lines from the B.O.P.s to the circulation tanks.

3. The entrance to the location is designed so that it can be barricaded if a hydrogen sulfide emergency condition arises. An auxiliary exit route will be available so that in case of an emergency, a shift in wind direction would not prevent escape from the location.

4. A minimum of 2 safe briefing areas (SBA) shall be designated for assembly of personnel during emergency conditions. These will be located at least 150 ft. or as practical, from the wellbore and in such a location that at least one area will be upwind of the well at all times. Upon recognition of an emergency situation, all personnel will be trained to assemble at the designated briefing area for instructions.

5. Smoking areas will be established and "No Smoking" signs will be posted around the location.

6. Reliable 24 hour radio and telephone communications will be available at the drilling foremen's office.

7. A mud-gas separator will be rigged up and manifolded to the choke system.

8. All equipment that might come in to contact with hydrogen sulfide - drill pipe, drill stem test tools, blowout preventers, casing, choke system will meet Anschutz 's metallurgy requirements for H2S service.

9. The drilling rig will have a continuous electronic H2S detection system that automatically with activate visible and audible alarms if hydrogen sulfide is detected. The visible light will activate if 10 PPM H2S is present . The audible siren will activate if 15 PPM or higher concentration is present. There will be at least 4 H2S sensors in place on the drilling rig. They will be located to detect the presence of hydrogen sulfide in areas where it is most likely to come to surface. The sensor head locations



will be: 1) rig floor by driller's console, 2) substructure area near the bell nipple, 3) the shale shaker, 4) the mud mixing area. Additional sensors will be positioned at the discretion of the drilling foreman. At least 1 light and 1 siren will be placed on the rig to indicate the presence of hydrogen sulfide. The light and siren will be strategically placed to be visible to all personnel on the drill site. Additional alarm lights & sirens may be added to ensure that all personnel on the drill site are able to notice the alarms at any time.

10. The H<sub>2</sub>S detection equipment will be calibrated as recommended by the manufacturer. Calibration records will be maintained on location.

11. At least 4 windsocks will be placed around the drill site to ensure that wind direction can be readily determined by everyone on the drilling location. One windsock will be mounted on or near the rig floor to be readily visible to rig crews when tripping pipe.

12. All respiratory protective equipment will be NIOSH/ MSHA approved positive pressure type and maintained according to manufacturer's guidelines. All breathing air used for this equipment will be CGA type Grade D breathing air. Battery powered voice mikes will be available for communication when wearing masks.

13. Both 30 minute self-contained breathing apparatuses (SCBA) and workline units with escape cylinders will be available on location. There will be sufficient numbers of this supplied air breathing equipment on location to ensure that all personnel on location have 1 piece of equipment available to them. All respiratory protective equipment will use nose cups to prevent fogging in temperatures below 32 F. Spectacle kits will be available for personnel that require corrective lenses when working under mask.

14. Electric explosion- proof ventilating fans (bug blowers) will be available to provide air movement in enclosed areas where gas might accumulate.

15. H<sub>2</sub>S drills will be conducted at least weekly to ensure that all well site personnel are competent in emergency donning procedures. These drills will be recorded in the driller's log.

### **III. Safety Procedures**

#### **A. Training**

All personnel who come onto the drilling location must be properly trained in hydrogen sulfide, nitrogen, and oxygen deficient atmospheres safety. The personnel shall carry documentation with them indicating that the training has occurred within the previous 12 months.

Training topics shall include at a minimum:

1. Hazards and characteristics of hydrogen sulfide, nitrogen, and oxygen deficient atmospheres and symptoms of exposure to these gases.
2. Proper use, care and limitations of respiratory protective equipment with hands on practice.
3. Use of both fixed and portable detection toxic gas equipment.
4. Work practices to reduce opportunities for toxic gas exposure as well as confined space procedures.
5. First aid for toxic gas exposure and resuscitation equipment.
6. The buddy system
7. Emergency evacuation procedures
8. A review of the contingency plan for the well.

#### **B. Operating Conditions**

A three color- flag warning system will be used to notify personnel approaching the drill site as to operating conditions on the wellsite. This system is in compliance with BLM O.O. # 6 and follows industry standards.

Green Flag - Potential Danger

Yellow Flag - Moderate Danger

Red Flag- Extreme Danger - Do Not approach if red flag is flying.

### **C. Evacuation Plan**

There are no permanent residents within a 1 mile radius of the drill site. Anschutz Exploration Corporation and Union Pacific Resources CO have operations within this area and travel the roads in the immediate area.

According to the Union Pacific Resources Co - Wahsatch Gathering System Emergency Response Plan, any evacuation will be conducted under the direction of Jon Lunsford the Uinta County Fire Protection Agency Chief.

All regulatory agencies will be notified as soon as possible.

### **D. Emergency Rescue Procedures**

Well site personnel should not attempt emergency rescues unless they have been properly trained. A trained person who discovers another person overcome by hydrogen sulfide should **not attempt to rescue without donning the proper breathing equipment**. When making an emergency rescue always use the following procedures:

1. Don rescue breathing equipment before attempting to rescue someone.
2. Remove the victim from the contaminated area to an area free of toxic gas by traveling upwind or cross wind. Be certain that you are in a safe area before removing your breathing equipment.
3. If the victim is not breathing, initiate mouth- to mouth resuscitation immediately. Follow CPR guidelines and replace mouth to mouth with a bag mask resuscitator if available.
4. Treat the victim for shock, keeping the victim warm and calm. Never leave the victim alone.
5. Any personnel who experience hydrogen sulfide exposure must be taken to a hospital for examination and their supervisor notified of the incident.
6. Their supervisor shall follow the company Emergency Preparedness plan .

#### **IV. H2S Safety Equipment on Drilling Location**

<b>Item</b>	<b>Amount</b>	<b>Description</b>
1.	1	safety trailer with a cascade system of 10-300 cu. ft bottles of compressed breathing air complete with high pressure regulators
2.	At least 1000 ft.	low pressure airline equipped with Hansen locking fittings. This airline will be rigged up with manifolds to supply breathing air to the rig floor, substructure, derrick, shale shaker area, and mud mixing areas. Three high pressure refill hoses will be attached to cascade systems for cylinder refill.
3.	Twelve (12)	Scott 30 minute self contained breathing apparatuses (SCBA).
4.	Twelve (12)	Scott airline units with emergency escape cylinders.
5.	One (1)	4- channel continuous electronic H2S monitor with audible and visual alarms. The set points for these alarms are 10 PPM for the low alarm and 15 PPM for the high alarm.
6.	Two (2)	Sensidyne portable hand operated pump type detection units with tubes for hydrogen sulfide and sulfur dioxide.
7.	One (1)	oxygen resuscitator with spare oxygen cylinder.
8.	One (1)	trauma first aid kit
9.	One (1)	stokes stretcher and one (1) KED.
10.	Four	wind socks
11.	At least one (1)	well condition sign with 3 flag system.
12.	Two (2)	Safe Briefing Area (SBA) signs
13.	One (1)	fire blanket

- |     |           |   |
|-----|-----------|---|
| 14. | One (1)   | set air splints   |
| 15. | Two (2)   | electric explosion proof fans   |
| 16. | One (1)   | bullhorn and chalk board  |
| 17. | Three (3) | 300 cu. ft. air bottles for the safe briefing area.                   |
| 18. | Two (2)   | 30 # fire extinguishers   |
| 19. | Six (6)   | battery powered voice mikes for communication when wearing air masks. |
| 20. | One (1)   | battery powered combustible gas meter                                 |

A drawing of the drilling location will be inserted in this page showing the actual placement of all safety equipment relative to the other equipment on the drill site. This drawing will be completed within 2 weeks of the drilling rig being in place and the location fully constructed to assure that all equipment, pits and roads are accurately located on the map.

## **V. Well Ignition Procedures**

If it should become apparent that a uncontrolled release of hydrogen sulfide to the atmosphere may endanger the health and safety of the public or well site personnel, the Anschutz drilling foreman will make a decision to ignite the well. The following procedure should be followed before attempting to ignite the well.

**A. Ignition equipment** - The following equipment will be available on-site for use by the ignition team.

1. 2 12 gauge flare guns with flare shells
2. 2 500 ft. Fire resistant retrieval ropes
3. 1 portable combustible gas meter
4. Self contained breathing apparatus (SCBA) for each member of the ignition team.
5. 1 backup vehicle with communication equipment

### **B. Ignition Procedures**

1. The Anschutz drilling foreman will ensure that well site personnel are evacuated to a safe area upwind of the well bore prior to any ignition action.

2. The Anschutz foreman and a designated partner "buddy" backed up by well site safety personnel will comprise the ignition team. All team members will be wearing 30 minute SCBAs.

3. The backup crew will be positioned near a radio equipped vehicle at a safe distance from the sour gas release. They will standby to rescue the actual team igniting the well.

4. The partner of the ignition team will carry a combustible gas/ hydrogen sulfide meter to continuously monitor the area in which they are working and define the perimeter of the gas cloud.

5. The Anschutz foreman will carry the flare gun and shells.

6. The ignition team will determine the hazardous area and establish safe working perimeters. Once this is identified the team will proceed upwind of the leak and fire into the area with flare gun. If trouble is encountered in trying to light the leak, retry to ignite by firing the flare shells at 45 and 90 angles to the gas source, but DO NOT approach closer to the leak.

**7. After ignition, monitor for sulfur dioxide and work with the support group to restrict access to the contaminated area.**

**8. Notify the Union Pacific Resources Co- Wahsatch Gathering System Control Room of any flaring of H<sub>2</sub>S gas on location.**



## **VI. Residents - Public in Roe**

There are no residents within a 1 mile radius of the well site. The Hansen Ranch buildings border the 1 mile radius and have been included in our notification list. Anschutz Exploration Corporation and Union Pacific Resource CO have personnel working in the area at any time of the day. The Urroz Ranch operated by Cathy Seale of Seale Services borders this lease and Seale Oilfield Services may have personnel in the adjacent area at any time of day. Castle Rock L & L may have ranching personnel in the area at any time of the day.

Anschutz Ranch East Office.....(307) 783-2905  
Evanston, WY. (307) 782-7111

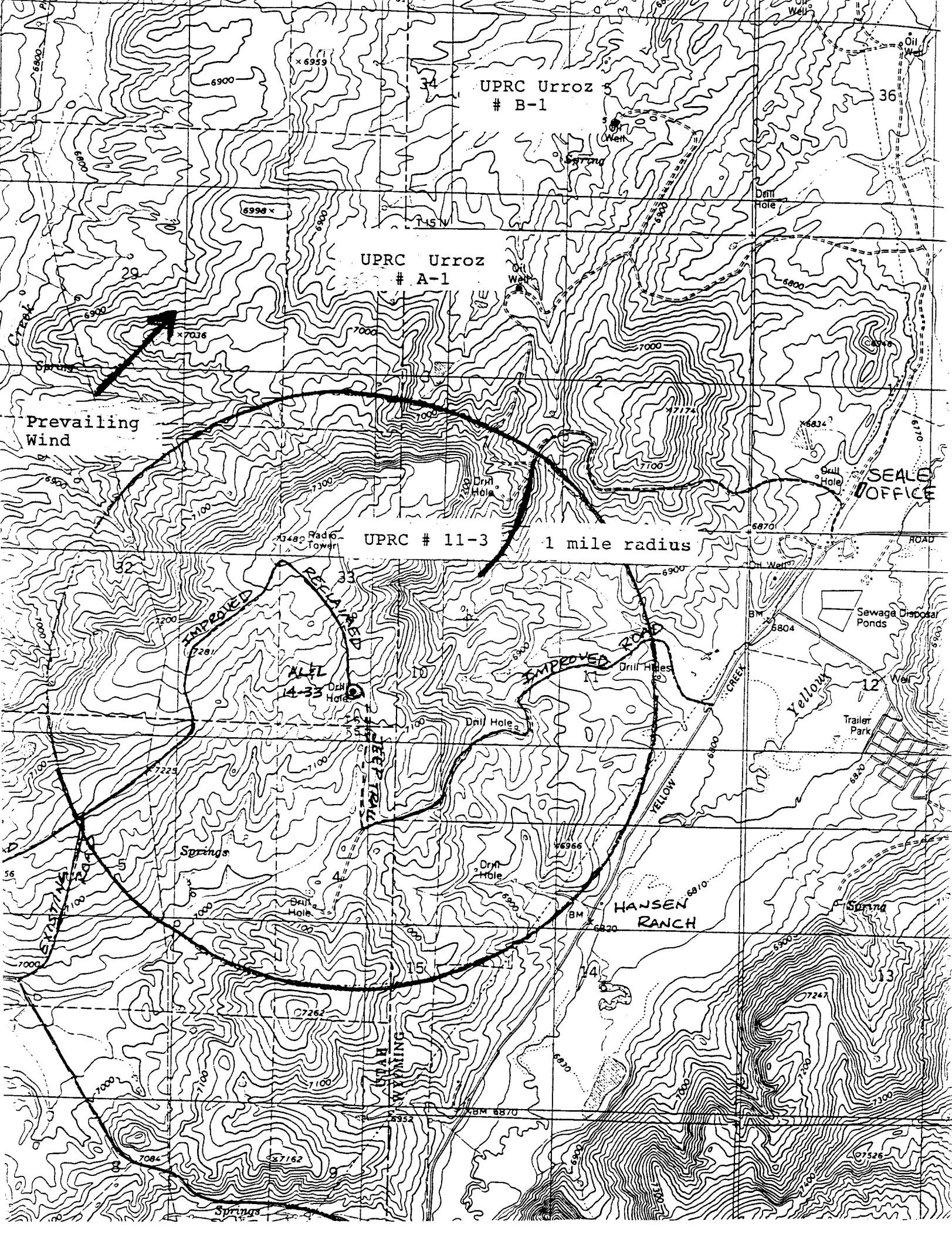
Union Pacific Resources CO.....(307) 789-1573  
UPRC Emergency Phone to WGS Control Room.....(307) 789-9735

Hansen Ranch.....(307) 789-3686

Urroz Ranch & Seale Oilfield Services.....(307) 789-4453  
Cathy or Hank Seale

Castle Rock Land & Livestock  
Jeff Young - Ranch Manager.....Home (801) 289-8414  
Mobil (801) 541-0279

Castle Rock Land & Livestock Corporate Office.....(801) 328-1600  
David Allen



## VII. Emergency Phone Directory

Union Pacific Resources Co - Wasatch Gathering System (UPRC-WGS) is a partner in this well and will be the lead contact in providing emergency response services in conjunction with the **UPRC Emergency Response Plan**. The first emergency response call should be to the UPRC-WGS control room in Evanston, WY. At that point, UPRC will follow its emergency response plan protocol.

Union Pacific Resources CO- Wahsatch Gathering System.....(307) 789-1573

Pete Straub- Superintendent

WGS Emergency Phone to Control Room .....(307) 789-9735

A. Anschutz Exploration Corporation.....(303) 298-1000

555 17 Th. St. Suite 2400

Denver, CO. 80202

<u>Title</u>	<u>Name</u>		<u>Phone</u>
General Manager	Hal Koerner		(303) 299-1269
		Home	(303) 841-8151
		Pager	(800) 759-8888
			PIN 195-8787
Drilling Superintendent	Haw Gallagher		(303) 299-1532
		Home	see pager
		Mobil	(303) 981-5609
		Pager	(800) 492-0694
Drilling	Dave Dlouhy		(303) 299-1228
		Home	(303) 797-0115

## **Engineering**

<b>Don Day</b>	<b>Home</b>	(303) 299-1324 (303) 979-2396
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<b>Jim Oursland</b>	<b>Home</b>	(713) 750-0210
	<b>Pager</b>	(719) 688-1362
	<b>PIN</b>	(800) 759-8888 198-3975

## **Anschutz Ranch East Pipeline Foreman**

<b>Stan Dolinar</b>	<b>Home</b>	(307) 783-2905
	<b>Mobil</b>	(307) 789-9048 (307)

## **Field Supervision**

<b>Bob Griffin</b>	<b>Home</b>	(801) 789-1564
	<b>Mobil</b>	(719) 881-1362

<b>Ken Claire</b>	<b>Home</b>	(801) 789-8838
	<b>Mobil</b>	(801) 790-5192

<b>Jerry Blair</b>	<b>Home</b>	(307) 455-4030
	<b>Mobil</b>	(719) 349-1862

## **Public Relations**

<b>Bill Miller</b>	<b>Home</b>	(303) 299-1330
	<b>Mobil</b>	(303) 797-8071 (303) 489-4851

## **B. Emergency Services Phone List**

Uinta County, WY. has a 911 system. Should the well site have direct access to Wyoming telephone system, 911 would contact all emergency services.

1. IHC Memorial Hospital - Evanston, WY. ....(307) 789-3636
2. Ambulance Services - Uinta County, WY.....(307) 783-1000
3. Sheriff Department- Uinta County, WY.....(307) 783-1000
4. Highway Patrol - Wyoming.....800) 442-9090
5. Summit County Sheriffs Office.....(dispatch).....(801) 336-4461
6. Fire Department - Uinta County, WY. ....(307) 783-1000
7. Utah Division Oil & Gas- Salt Lake City, UT.....(801) 538-5340
8. Medical Helicopter - Air Med - Salt Lake City, UT.....(800) 453-0120



State of Utah  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

Michael O. Leavitt  
Governor

Ted Stewart  
Executive Director

James W. Carter  
Division Director

355 West North Temple  
3 Triad Center, Suite 350  
Salt Lake City, Utah 84180-1203  
801-538-5340  
801-359-3940 (Fax)  
801-538-5319 (TDD)

July 29, 1996

Anschutz Exploration Corporation  
c/o Permitco, Inc.  
13585 Jackson Drive  
Denver, Colorado 80241

Re: AL&L 4-30 Well, 533' FNL, 1802' FWL, NE NW, Sec. 30,  
T. 5 N., R. 8 E., Summit County, Utah

Gentlemen:

Pursuant to the provisions and requirements of Utah Code Ann. 40-6-1 et seq., Utah Administrative Code R649-3-1 et seq., and the attached Conditions of Approval, approval to drill the referenced well is granted.

This approval shall expire one year from the above date unless substantial and continuous operation is underway, or a request for extension is made prior to the expiration date. The API identification number assigned to this well is 43-043-30316.

Sincerely,

R. J. Finth  
Associate Director

lwp

Enclosures

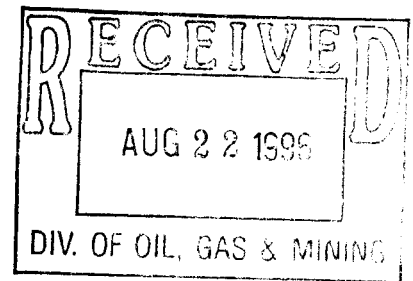
cc: Summit County Assessor  
Bureau of Land Management, Utah State Office



Operator: Anschutz Exploration Corporation  
Well Name & Number: AL&L 4-30  
API Number: 43-043-30316  
Lease: FEE  
Location: NE NW Sec. 30 T. 5 N. R. 8 E.

## Conditions of Approval

1. General  
Compliance with the requirements of Utah Admin. R. 649-1 et seq., the Oil and Gas Conservation General Rules, and the applicable terms and provisions of the approved Application for Permit to Drill.
2. Notification Requirements  
Notify the Division within 24 hours following spudding the well or commencing drilling operations. Contact Jimmie Thompson at (801)538-5336.  
  
Notify the Division prior to commencing operations to plug and abandon the well. Contact Frank Matthews at (801)538-5334 or Mike Hebertson at (801)538-5333.
3. Reporting Requirements  
All required reports, forms and submittals shall be promptly filed with the Division, including but not limited to the Entity Action Form (Form 6), Report of Water Encountered During Drilling (Form 7), Weekly Progress Reports for drilling and completion operations, and Sundry Notices and Reports on Wells requesting approval of change of plans or other operational actions.
4. Compliance with the Conditions of Approval/Application for Permit to Drill outlined in the Statement of Basis dated July 25, 1996 (copy attached).



**H2S Contingency Plan**

**for**

**A L & L # 4-30**

**Township 5N, Range 8E**

**Section 30**

**Summit County, Utah**

**Anschutz Exploration Corporation  
555 17th St. Suite 2400  
Denver, CO. 80202**



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## **Introduction**

It is the policy of Anschutz Exploration Corporation to provide a safe and healthful work environment for all of its employees as well as contractors that may work on Anschutz leases. Anschutz Exploration Corporation makes a continued effort to comply with laws and regulations relative to worker safety and health, and to manage all operations in a manner to reduce risk.

The following is a H<sub>2</sub>S contingency plan for the Anschutz A L & L # 4-30 well. It is designed for personnel working on this project to follow in case of an accidental release of hydrogen sulfide during drilling and or completion operations. For the plan to be effective, all personnel must review and be familiar with onsite duties as well as the safety equipment involved.

The purpose of this plan is to act as a guideline for personnel working on the wellsite in the event of a sudden release of hydrogen sulfide. All personnel working on the wellsite as well as service personnel that may travel to location on an unscheduled basis must be familiar with this program. The cooperation and participation of all personnel involved with the drilling operation is necessary for this plan to be effective.

This plan shall incorporate the existing Emergency Response Plan of the Union Pacific Resources Wahsatch Gathering system as it pertains to the Public Safety in the event of any atmospheric release of H<sub>2</sub>S. It is imperative that the WGS Control Room be contacted as soon as possible in the event of any release so this plan can be implemented.

Directions to location:

## **I. Duties & Responsibilities**

In order to assure proper execution of the contingency plan, it is essential that one person be responsible for and in complete charge of implementing the procedures outlined in this plan. The order of responsibility will be as follows:

1. Anschutz Exploration Corporation drilling representative on location - if unable to perform his/ her duties
2. Alternate Anschutz representative - if unable to perform his/ her duties
3. Rig Toolpusher/ Supervisor - if unable to perform his/ her duties
4. Safety consultant representative- if available

### **A. All Personnel**

1. Always be alert for possible H2S alarms- both audible and visual.
2. Be familiar with location of Safe Briefing Areas (SBA) and protective breathing equipment.
3. Develop a "wind awareness". Be aware of prevailing wind direction as well as nearby uphill areas, should there be no wind.
4. Familiarize yourself with nearest escape routes for safe evacuation
5. Should H2S alarm sound, **DON'T PANIC** - Remain calm and follow instructions of person in charge.
6. If the H2S alarms sound:
  - a. Essential personnel shall don the appropriate respiratory protective equipment and follow company procedures. Essential personnel will continue to wear respiratory protective equipment until the area is deemed safe (H2S concentration less than 10 PPM)
  - b. Non-essential personnel shall evacuate to the appropriate safe briefing area using escape breathing systems. Wait there for further instructions from Anschutz drilling representative.
  - c. Initiate rescue protocol if necessary- following training procedures.

## **B. Drilling Foreman**

1. The Anschutz drilling foreman will confirm that all personnel on location are trained in H2S safety and aware of above list of duties when the H2S plan becomes effective at 300 feet above the Dinwoody Formation.

2. The Anschutz foreman will ensure that all safety and emergency procedures are observed by all personnel.

3. The Anschutz foreman will make an effort to keep the number of personnel on location to a minimum and to ensure that only essential personnel are on location during critical operations.

4. Should any extreme danger condition exist, the Anschutz foreman will:

a. Assess the situation and advise all personnel by appropriate means of communication.

b. Be responsible for determining that the extreme danger condition is warranted and the red flag shall be posted at location entrance.

c. Go to safe briefing area and give clear instructions relative to hazard on location, and actions for personnel to follow.

d. Notify company and regulatory groups of current situation as outlined in company protocol. Notify WGS Control Room to activate WGS Emergency Response Plan.

e. Proceed to rig floor and supervise operations with rig supervisor. Take action to control and reduce the H2S hazard.

f. Ensure that essential personnel are properly protected with supplied air breathing equipment and that non-essential personnel are in a "poison gas free" area.

g. Be responsible for authorizing evacuation of persons/ residents in area surrounding the drilling location.

h. Commence any ignition procedures if ignition criteria are met.

## **C. Rig Supervisor- Toolpusher**

1. If the Anschutz drilling foreman is unable to perform his/ her duties, and the alternate drilling foreman is also unable or unavailable to perform his duties, the drilling rig Toolpusher will assume command of wellsite operations and all responsibilities listed above for drilling foreman.

2. Ensure that all rig personnel are properly trained to work in H2S environment and fully understand purpose of H2S alarms, and actions to take when alarms activate.

Ensure that all crew personnel understand the buddy system, safe briefing areas, and individual duties as well as emergency evacuation procedures.

3. Should an extreme danger operational condition arise, the rig Toolpusher shall assist the Anschutz foreman by:

- a. Proceeding to the rig floor and assist in supervising rig operations.
- b. Ensure that only essential working personnel remain in hazardous areas.
- c. Ensure that all crew members that remain in hazardous area, wear respiratory protective equipment until notified that area is "clear" of any toxic gases.
- d. Assign rig crew member or other service representative to block entrance to location. No unauthorized personnel will be allowed entry to location.
- e. Help to determine hazardous "danger zones" on location using portable detection equipment and position electric fans to move gas in any high concentration areas.

#### **D. Safety Consultant**

1. During normal operations (no H2S present), the safety consultant will be responsible for the following:

- a. Ensure that all wellsite safety equipment is in place and operational.
- b. Ensure that all wellsite personnel are familiar with location safety layout and operation of all safety equipment.
- c. Assist the Anschutz foreman in performing weekly H2S drills for location personnel.

2. When an operational condition is classified as extreme danger, the safety consultant will be responsible for the following:

- a. Account for all wellsite personnel
- b. Assess any injuries and direct first aid measure.
- c. Ensure that all safety and monitoring equipment is functioning properly and available.
- d. Monitor the safety of wellsite personnel
- e. Maintain a close communication with Anschutz foreman.
- f. Be prepared to assist Anschutz foreman with support for rig crew or other personnel using breathing equipment.
- g. Be prepared to assist Anschutz foreman with emergency procedures including possible well ignition.
- h. Be prepared to assist with evacuation of any area residents or other personnel working in the immediate area.

## **E. Union Pacific Resources Co- Wahsatch Gathering System Office**

1. The Union Pacific Resources Co- Wahsatch Gathering System operations control room will be notified of any release of H<sub>2</sub>S by the Anschutz Operations Superintendent as well as other Anschutz Exploration Co supervisory personnel. The Union Pacific Resources Co- Wahsatch Gathering System Operations Control room will be responsible for notifying and maintaining contact with the Uinta County Fire Protection Agency as outlined in their Emergency Response Plan for the Public Protection in the event of an H<sub>2</sub>S release. This plan incorporates a Memorandum of Understanding between Summit County, Utah and Uinta County, Wyoming, that the primary responder to any event pertaining to the Wahsatch Gathering System will be the Uinta County Fire Protection Agency.

2. The Anschutz drilling foreman will maintain communications with the UPRC-WGS control room to coordinate with any other assistance that might be required.

3. Travel to wellsite if appropriate

## **II. Drilling Rig Layout**

### **A. Location**

1. All respiratory protective equipment and H<sub>2</sub>S detection equipment will be rigged up 3 days or 500 feet prior to entering the first zone suspected to contain hydrogen sulfide. The rig crews and other service personnel will be trained at this time.
2. The drilling rig will be situated on location to allow for the prevailing winds to blow across the rig toward the circulation tanks or at right angles to the lines from the B.O.P.s to the circulation tanks.
3. The entrance to the location is designed so that it can be barricaded if a hydrogen sulfide emergency condition arises. An auxiliary exit route will be available so that in case of an emergency, a shift in wind direction would not prevent escape from the location.
4. A minimum of 2 safe briefing areas (SBA) shall be designated for assembly of personnel during emergency conditions. These will be located at least 150 ft. or as practical, from the wellbore and in such a location that at least one area will be upwind of the well at all times. Upon recognition of an emergency situation, all personnel will be trained to assemble at the designated briefing area for instructions.
5. Smoking areas will be established and "No Smoking" signs will be posted around the location.
6. Reliable 24 hour radio and telephone communications will be available at the drilling foremen's office.
7. A mud-gas separator will be rigged up and manifolded to the choke system.
8. All equipment that might come in to contact with hydrogen sulfide - drill pipe, drill stem test tools, blowout preventers, casing, choke system will meet Anschutz's metallurgy requirements for H<sub>2</sub>S service.
9. The drilling rig will have a continuous electronic H<sub>2</sub>S detection system that automatically will activate visible and audible alarms if hydrogen sulfide is detected. The visible light will activate if 10 PPM H<sub>2</sub>S is present. The audible siren will activate if 15 PPM or higher concentration is present. There will be at least 4 H<sub>2</sub>S sensors in place on the drilling rig. They will be located to detect the presence of hydrogen sulfide in areas where it is most likely to come to surface. The sensor head locations

will be: 1) rig floor by driller's console, 2) substructure area near the bell nipple, 3) the shale shaker, 4) the mud mixing area. Additional sensors will be positioned at the discretion of the drilling foreman. At least 1 light and 1 siren will be placed on the rig to indicate the presence of hydrogen sulfide. The light and siren will be strategically placed to be visible to all personnel on the drill site. Additional alarm lights & sirens may be added to ensure that all personnel on the drill site are able to notice the alarms at any time.

10. The H<sub>2</sub>S detection equipment will be calibrated as recommended by the manufacturer. Calibration records will be maintained on location.

11. At least 4 windsocks will be placed around the drill site to ensure that wind direction can be readily determined by everyone on the drilling location. One windsock will be mounted on or near the rig floor to be readily visible to rig crews when tripping pipe.

12. All respiratory protective equipment will be NIOSH/ MSHA approved positive pressure type and maintained according to manufacturer's guidelines. All breathing air used for this equipment will be CGA type Grade D breathing air. Battery powered voice mikes will be available for communication when wearing masks.

13. Both 30 minute self-contained breathing apparatuses (SCBA) and workline units with escape cylinders will be available on location. There will be sufficient numbers of this supplied air breathing equipment on location to ensure that all personnel on location have 1 piece of equipment available to them. All respiratory protective equipment will use nose cups to prevent fogging in temperatures below 32 F. Spectacle kits will be available for personnel that require corrective lenses when working under mask.

14. Electric explosion- proof ventilating fans (bug blowers) will be available to provide air movement in enclosed areas where gas might accumulate.

15. H<sub>2</sub>S drills will be conducted at least weekly to ensure that all well site personnel are competent in emergency donning procedures. These drills will be recorded in the driller's log.



### **III. Safety Procedures**

#### **A. Training**

All personnel who come onto the drilling location must be properly trained in hydrogen sulfide, nitrogen, and oxygen deficient atmospheres safety. The personnel shall carry documentation with them indicating that the training has occurred within the previous 12 months.

Training topics shall include at a minimum:

1. Hazards and characteristics of hydrogen sulfide, nitrogen, and oxygen deficient atmospheres and symptoms of exposure to these gases.
2. Proper use, care and limitations of respiratory protective equipment with hands on practice.
3. Use of both fixed and portable detection toxic gas equipment.
4. Work practices to reduce opportunities for toxic gas exposure as well as confined space procedures.
5. First aid for toxic gas exposure and resuscitation equipment.
6. The buddy system
7. Emergency evacuation procedures
8. A review of the contingency plan for the well.

#### **B. Operating Conditions**

A three color- flag warning system will be used to notify personnel approaching the drill site as to operating conditions on the wellsite. This system is in compliance with BLM O.O. # 6 and follows industry standards.

Green Flag - Potential Danger

Yellow Flag - Moderate Danger

Red Flag- Extreme Danger - Do Not approach if red flag is flying.

### **C. Evacuation Plan**

There are no permanent residents within a 1 mile radius of the drill site. Anschutz Exploration Corporation and Union Pacific Resources CO have operations within this area and travel the roads in the immediate area.

According to the Union Pacific Resources Co - Wahsatch Gathering System Emergency Response Plan, any evacuation will be conducted under the direction of Jon Lunsford the Uinta County Fire Protection Agency Chief.

All regulatory agencies will be notified as soon as possible.

### **D. Emergency Rescue Procedures**

Well site personnel should not attempt emergency rescues unless they have been properly trained. A trained person who discovers another person overcome by hydrogen sulfide should **not attempt to rescue without donning the proper breathing equipment**. When making an emergency rescue always use the following procedures:

1. Don rescue breathing equipment before attempting to rescue someone.
2. Remove the victim from the contaminated area to an area free of toxic gas by traveling upwind or cross wind. Be certain that you are in a safe area before removing your breathing equipment.
3. If the victim is not breathing, initiate mouth- to mouth resuscitation immediately. Follow CPR guidelines and replace mouth to mouth with a bag mask resuscitator if available.
4. Treat the victim for shock, keeping the victim warm and calm. Never leave the victim alone.
5. Any personnel who experience hydrogen sulfide exposure must be taken to a hospital for examination and their supervisor notified of the incident.
6. Their supervisor shall follow the company Emergency Preparedness plan .

#### **IV. H2S Safety Equipment on Drilling Location**

<b>Item</b>	<b>Amount</b>	<b>Description</b>
1.	1	safety trailer with a cascade system of 10-300 cu. ft bottles of compressed breathing air complete with high pressure regulators
2.	At least 1000 ft.	low pressure airline equipped with Hansen locking fittings. This airline will be rigged up with manifolds to supply breathing air to the rig floor, substructure, derrick, shale shaker area, and mud mixing areas. Three high pressure refill hoses will be attached to cascade systems for cylinder refill.
3.	Twelve (12)	Scott 30 minute self contained breathing apparatuses (SCBA).
4.	Twelve (12)	Scott airline units with emergency escape cylinders.
5.	One (1)	4- channel continuous electronic H2S monitor with audible and visual alarms. The set points for these alarms are 10 PPM for the low alarm and 15 PPM for the high alarm.
6.	Two (2)	Sensidyne portable hand operated pump type detection units with tubes for hydrogen sulfide and sulfur dioxide.
7.	One (1)	oxygen resuscitator with spare oxygen cylinder.
8.	One (1)	trauma first aid kit
9.	One (1)	stokes stretcher and one (1) KED.
10.	Four	wind socks
11.	At least one (1)	well condition sign with 3 flag system.
12.	Two (2)	Safe Briefing Area (SBA) signs
13.	One (1)	fire blanket

- |     |           |   |
|-----|-----------|---|
| 14. | One (1)   | set air splints   |
| 15. | Two (2)   | electric explosion proof fans   |
| 16. | One (1)   | bullhorn and chalk board  |
| 17. | Three (3) | 300 cu. ft. air bottles for the safe briefing area.                   |
| 18. | Two (2)   | 30 # fire extinguishers   |
| 19. | Six (6)   | battery powered voice mikes for communication when wearing air masks. |
| 20. | One (1)   | battery powered combustible gas meter                                 |

A drawing of the drilling location will be inserted in this page showing the actual placement of all safety equipment relative to the other equipment on the drill site. This drawing will be completed within 2 weeks of the drilling rig being in place and the location fully constructed to assure that all equipment, pits and roads are accurately located on the map.

## **V. Well Ignition Procedures**

If it should become apparent that a uncontrolled release of hydrogen sulfide to the atmosphere may endanger the health and safety of the public or well site personnel, the Anschutz drilling foreman will make a decision to ignite the well. The following procedure should be followed before attempting to ignite the well.

A. Ignition equipment - The following equipment will be available on-site for use by the ignition team.

1. 2 12 gauge flare guns with flare shells
2. 2 500 ft. Fire resistant retrieval ropes
3. 1 portable combustible gas meter
4. Self contained breathing apparatus (SCBA) for each member of the ignition team.
5. 1 backup vehicle with communication equipment

### **B. Ignition Procedures**

1. The Anschutz drilling foreman will ensure that well site personnel are evacuated to a safe area upwind of the well bore prior to any ignition action.

2. The Anschutz foreman and a designated partner "buddy" backed up by well site safety personnel will comprise the ignition team. All team members will be wearing 30 minute SCBAs.

3. The backup crew will be positioned near a radio equipped vehicle at a safe distance from the sour gas release. They will standby to rescue the actual team igniting the well.

4. The partner of the ignition team will carry a combustible gas/ hydrogen sulfide meter to continuously monitor the area in which they are working and define the perimeter of the gas cloud.

5. The Anschutz foreman will carry the flare gun and shells.

6. The ignition team will determine the hazardous area and establish safe working perimeters. Once this is identified the team will proceed upwind of the leak and fire into the area with flare gun. If trouble is encountered in trying to light the leak, retry

to ignite by firing the flare shells at 45 and 90 angles to the gas source, but DO NOT approach closer to the leak.

7. After ignition, monitor for sulfur dioxide and work with the support group to restrict access to the contaminated area.

8. Notify the Union Pacific Resources Co- Wahsatch Gathering System Control Room of any flaring of H<sub>2</sub>S gas on location.

## **VI. Residents - Public in Roe**

There are no residents within a 1 mile radius of the well site. Union Pacific Resources and JN Exploration operate wells within a 1 mile radius to the West which is usually upwind. Both of these companies could have personnel working in the area at any time of the day. Castle Rock L & L may have ranching personnel in the area North of the well at any time of the day. The Fawcett family operates a ranch around the wellsite and may have personnel in the area at any time of day.

### **JN Exploration & Production Co**

Evanston, WY.....(307) 783-2982

Dave Olree - Operator.....(Home).(307) 789-2426

JN Exploration & Production Corporate Office.....(406) 248-2222

Billings, MT.

Union Pacific Resources CO.....(307) 789-1573

UPRC Emergency Phone to WGS Control Room.....(307) 789-9735

Fawcett Ranch.....(801) 773-2365

### **Castle Rock Land & Livestock**

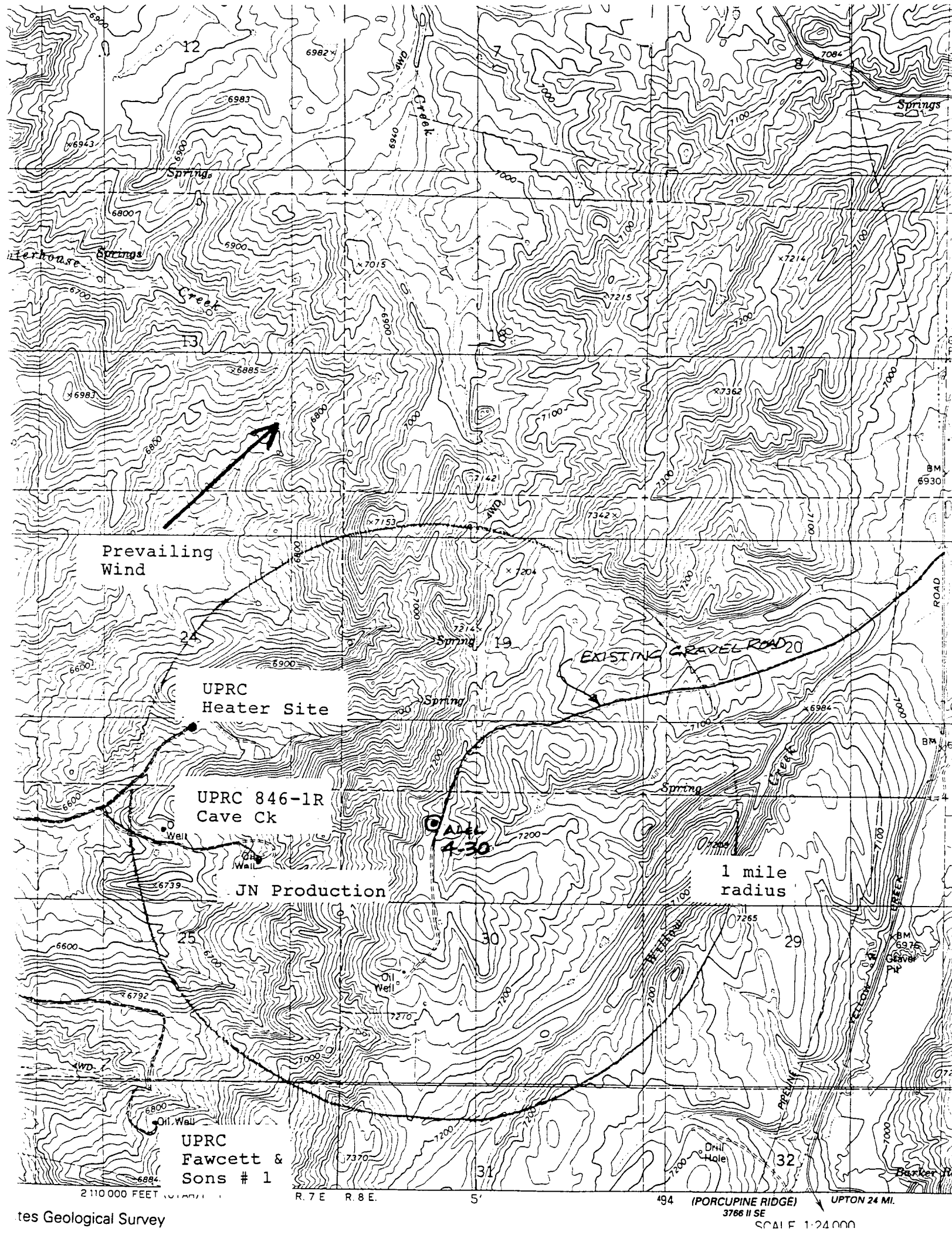
Jeff Young - Ranch Manager.....Home (801) 289-8414

Mobil (801) 541-0279

Castle Rock Land & Livestock Corporate Office.....(801) 328-1600

David Allen





Prevailing  
Wind

UPRC  
Heater Site

UPRC 846-1R  
Cave Ck

JN Production

UPRC  
Fawcett &  
Sons # 1

EXISTING GRAVEL ROAD

1 mile  
radius

GAL  
4-30

## VII. Emergency Phone Directory

Union Pacific Resources Co - Wasatch Gathering System (UPRC-WGS) is a partner in this well and will be the lead contact in providing emergency response services in conjunction with the **UPRC Emergency Response Plan**. The first emergency response call should be to the UPRC-WGS control room in Evanston, WY. At that point, UPRC will follow its emergency response plan protocol.

Union Pacific Resources CO- Wahsatch Gathering System.....(307) 789-1573

Pete Straub- Superintendent

WGS Emergency Phone to Control Room .....(307) 789-9735

A. Anschutz Exploration Corporation.....(303) 298-1000

555 17 Th. St. Suite 2400

Denver, CO. 80202

<u>Title</u>	<u>Name</u>	<u>Phone</u>
General Manager	Hal Koerner	(303) 299-1269
	Home	(303) 841-8151
	Pager	(800) 759-8888
		PIN 195-8787
Drilling Superintendent	Haw Gallagher	(303) 299-1532
	Home	see pager
	Mobil	(303) 981-5609
	Pager	(800) 492-0694
Drilling	Dave Dlouhy	(303) 299-1228
	Home	(303) 797-0115

## Engineering

Don Day	Home	(303) 299-1324 (303) 979-2396
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Jim Oursland	Home Pager PIN	(713) 750-0210 (719) 688-1362 (800) 759-8888 198-3975
--------------	----------------------	--

## Anschutz Ranch East Pipeline Foreman

Stan Dolinar	Home Mobil	(307) 783-2905 (307) 789-9048 (307)
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## Field Supervision

Bob Griffin	Home Mobil	(801) 789-1564 (719) 881-1362
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Ken Claire	Home Mobil	(801) 789-8838 (801) 790-5192
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Jerry Blair	Home Mobil	(307) 455-4030 (719) 349-1862
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## Public Relations

Bill Miller	Home Mobil	(303) 299-1330 (303) 797-8071 (303) 489-4851
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## **B. Emergency Services Phone List**

Uinta County, WY. has a 911 system. Should the well site have direct access to Wyoming telephone system, 911 would contact all emergency services.

1. IHC Memorial Hospital - Evanston, WY. ....(307) 789-3636
2. Ambulance Services - Uinta County, WY.....(307) 783-1000
3. Sheriff Department- Uinta County, WY.....(307) 783-1000
4. Highway Patrol - Wyoming.....800) 442-9090
5. Summit County Sheriffs Office.....(dispatch).....(801) 336-4461
6. Fire Department - Uinta County, WY. ....(307) 783-1000
7. Utah Division Oil & Gas- Salt Lake City, UT.....(801) 538-5340
8. Medical Helicopter - Air Med - Salt Lake City, UT.....(800) 453-0120

## PROPERTIES OF GAS

If gas should be produced, it could be a mixture of Carbon Dioxide, Hydrogen Sulfide, and Methane.

### TOXICITY OF VARIOUS GASES

<u>Common Name</u>	<u>Chemical Formula</u>	<u>Specific Gravity of Air=1</u>	<sup>1</sup> <u>Threshold Limit</u>	<sup>2</sup> <u>Hazardous Limit</u>	<sup>3</sup> <u>Lethal Concern</u>
Hydrogen Cyanide	HCN	0.94	10 ppm	150 ppm/hr.	300 ppm
Hydrogen Sulfide	H <sub>2</sub> S	1.18	10 ppm	250 ppm/hr.	600 ppm
Sulfur Dioxide	SO <sub>2</sub>	2.21	5 ppm	—	1000 ppm
Chlorine	CL <sub>2</sub>	2.45	1 ppm	4 ppm/hr.	1000 ppm
Carbon Monoxide	CO	0.97	50 ppm	400 ppm/hr.	1000 ppm
Carbon Dioxide	CO <sub>2</sub>	1.52	5000 ppm	5%	10%
Methane	CH <sub>4</sub>	0.55	90000 ppm	Combustible Above 5% in Air	--

<sup>1</sup> Threshold - Concentration at which it is believed that all workers may repeatedly be exposed, day after day, without adverse side effects.

<sup>2</sup> Hazardous - Concentration that may cause death.

<sup>3</sup> Lethal - Concentration that will cause death with short-term exposure.

# HYDROGEN SULFIDE

## GENERAL PROPERTIES

Hydrogen Sulfide itself is a colorless and transparent gas and is flammable. It is heavier than air and, hence, may accumulate in low places.

Although the slightest presence of  $H_2S$  in the air is normally detectable by its characteristic "rotten egg" odor, it is dangerous to rely on the odor as a means of detecting excessive concentrations because the sense of smell is rapidly lost, allowing lethal concentrations to be accumulated without warning. The following table indicates the poisonous nature of Hydrogen Sulfide, which is more toxic than Carbon Monoxide.

Common names: sour gas, acid gas, rotten egg gas, sulphur gas, sulphurated gas, sweet gas.\*

## PHYSICAL-CHEMICAL PROPERTIES

Chemical Formula . . . . .	$H_2S$
1. Specific Gravity (air = 1.000) . .	1.193 (@ 77°F)
2. Color . . . . .	None
3. Odor . . . . .	Compare to rotten eggs
4. Odor Threshold . . . . .	0.13 part of 1 ppm
5. Corrosivity . . . . .	Reacts with metals, plastics, tissues and nerves.
6. Solubility in Water . . . . .	4.0 to 1 in $H_2O$ @ 32°F 2.6 to 1 in $H_2O$ @ 68°F
7. Effects on Humans . . . . .	Olfactory nerves, respiratory nerves, irritates sensitive membranes in eyes, nose, and throat.
8. Vapor Pressure . . . . .	19.6 atmospheres at 25°C
9. Explosive Limits . . . . .	4.3% to 46% by volume in air.

\* $H_2S$  is a sweet tasting gas, but often the word "tasting" is left out.

10. Ignition Temperature . . . . .	18°F (burns with a pale flame).
11. Molecular Weight . . . . .	34.08
12. Conversion Factors . . . . .	1 mg/l of air = 717 ppm (at 25°C and 760 mm HG). 1 ppm = 0.00139 mg/l of air.
13. pH . . . . .	3 in water
14. Conversion Factors . . . . .	1 mg/l of air = 717 ppm (at 25°C and 760 mm HG). 1 ppm = 0.00139 mg/l of air.

## INDUSTRIAL OCCURRENCES

Hydrogen Sulfide exposures occur in certain processes in the petroleum industry, chemical plants, chemical laboratories, sulfur and gypsum mines, viscose rayon and rubber industries, tanneries, and in the manufacture of some chemicals, dyes, and pigments. It may be encountered in excavations in swampy or filled ground. It is produced when sulfur-containing organic matter decomposes, and it can therefore be found in sewage or organic-waste treatment plants. A common sewer gas, it may find its way into utility manholes, particularly dangerous when encountered in tanks, vessels, and other enclosed spaces.

## TOXIC PROPERTIES

Hydrogen Sulfide is an extremely toxic and irritating gas. Free Hydrogen Sulfide in the blood reduces its oxygen-carrying capacity, thereby depressing the nervous system. Sufficiently high concentrations cause blocking of the phrenic nerve, resulting in immediate collapse and death due to respiratory failure and asphyxiation.

Because Hydrogen Sulfide is oxidized quite rapidly to sulfates in the body, no permanent after effects occur in cases of recovery from acute exposures unless oxygen deprivation of the nervous system is prolonged. However, in cases of acute exposures, there is always the possibility that pulmonary edema may develop. It is also reported that symptoms such as nervousness, dry nonproductive coughing, nausea, headache, and insomnia, lasting up to about three days, have occurred after acute exposures to Hydrogen Sulfide.

At low concentrations the predominant effect of Hydrogen Sulfide is on the eyes and respiratory tract. Eye irritation, conjunctivitis, pain, lacrimation, keratitis, and photophobia may persist for several days. Respiratory tract symptoms include coughing, painful breathing, and pain in the nose and throat.

There is no evidence that repeated exposures to Hydrogen Sulfide result in accumulative or systemic poisoning. Effects such as eye irritation, respiratory tract irritation, slow pulse rate, lassitude, digestive disturbances, and cold sweats may occur, but these symptoms disappear in a relatively short time after removal from the exposure. Repeated exposures to Hydrogen Sulfide do not appear to cause any increase or decrease in susceptibility to this gas.

The paralytic effect of Hydrogen Sulfide on the olfactory nerve is probably the most significant property of the gas. This paralysis may create a false sense of security. A worker can be overcome after the typical rotten-egg odor has disappeared. Rather than the characteristic Hydrogen Sulfide odor, some victims of sudden acute overexposure have reported a brief, sickeningly sweet odor just prior to unconsciousness.

Subjective olfactory responses to various concentrations of Hydrogen Sulfide have been summarized as follows:

0.02 ppm:	No odor
0.13 ppm:	Minimal perceptible odor
0.77 ppm:	Faint, but readily perceptible odor
4.60 ppm:	Easily detectable, moderate odor
27.0 ppm:	Strong, unpleasant odor, but not intolerable.

Physiological responses to various concentrations of Hydrogen Sulfide have been reported as follows:

10 ppm:	Beginning eye irritation
50-100 ppm:	Slight conjunctivitis and respiratory tract irritation after 1 hour exposure.
100 ppm:	Coughing, eye irritation, loss of sense of smell after 2-15 minutes. Altered respiration, pain in the eyes, and drowsiness after 15-30 minutes, followed by throat irritation after 1 hour. Several hours' exposure results in gradual increase in severity of these symptoms and death may occur within the next 48 hours.
200-300 ppm:	Marked conjunctivitis and respiratory tract irritation after 1 hour of exposure.
500-700 ppm:	Loss of consciousness and possibly death in 30 minutes to 1 hour.



700-1000 ppm: Rapid unconsciousness, cessation of respiration, and death.

1000-2000 ppm: Unconsciousness at once, with early cessation of respiration and death in a few minutes. Death may occur even if individual is removed to fresh air at once.

### ACCEPTABLE CONCENTRATIONS

#### Acceptable Eight-Hour Time-Weighted Average.

To avoid discomfort, the time-weighted average concentration of Hydrogen Sulfide shall not exceed 10 ppm.

#### Acceptable Ceiling Concentrations.

The acceptable concentration for protection of health for an eight-hour, five-day week shall be 20 ppm. Fluctuations are to occur below this concentration.

#### Acceptable Maximum For Peaks Above Acceptable Base Line For Continuous Exposure.

A single-peak concentration not exceeding 50 ppm for a maximum of 10 minutes is allowable provided that the daily time-weighted average is not exceeded.

### H<sub>2</sub>S EQUIVALENTS

<u>Parts per Million</u>	<u>Percents</u>	<u>Grains per 100 cu. ft.</u>
1	.0001	.055
10	.001	.55
18	.0018	1.0
100	.01	5.5
1000	.1	55.5
10000	1.0	555.5

Grains per 100 cu. ft. = % by volume Mole 636.4  
1% by volume = 10,000 ppm

# SULFUR DIOXIDE

Sulfur Dioxide ( $\text{SO}_2$ ) is a colorless, transparent gas and is non-flammable.

Sulfur Dioxide is produced during the burning of  $\text{H}_2\text{S}$ . Although  $\text{SO}_2$  is heavier than air, it will be picked up by a breeze and carried downwind at elevated temperatures. While Sulfur Dioxide is extremely irritating to the eyes and mucous membranes of the upper respiratory tract, it has exceptionally good warning powers in this respect.

## CONCENTRATIONS

## EFFECTS

$\%\text{SO}_2$	ppm	
.0005	5	Pungent odor-normally a person can detect $\text{SO}_2$ in this range.
.001	10	Safe for eight (8) hour exposure.
.0012	12	Throat irritation, coughing, constriction of the chest, tearing and smarting of the eyes.
.015	150	So irritating that it can only be endured for a few minutes.
.05	500	Causes a sense of suffocation, even with the first breath.

## PHYSICAL PROPERTIES AND CHARACTERISTICS

Chemical Formula . . . . .	$\text{SO}_2$
1. Specific Gravity . . . . .	2.212
2. Color . . . . .	None
3. Flammable . . . . .	No
4. Odor . . . . .	Characteristic, pungent, gives ample warning of its presence.

- |                                       |   |
|---------------------------------------|---|
| 5. Corrosivity . . . . .              | Dry--not corrosive to ordinary metals. Wet-<br>corrosive to most common metals. |
| 6. Allowable Concentrations . . . . . | 5 ppm (ACGIH)<br>5 ppm (OSHA)   |
| 7. Effects on Humans . . . . .        | Irritates eyes, throat and upper respiratory<br>system.                         |

### **TOXIC PROPERTIES**

Sulfur Dioxide is an irritating gas in its vapor form and the odor is so intensely irritating that concentrations of 3 to 5 parts per million in the air are readily detectable by the normal person. In higher concentrations, the severely irritating effect of the gas makes it unlikely that any person would be able to remain in a Sulfur Dioxide contaminated atmosphere unless he were unconscious or trapped.

Sulfur Dioxide gas is intensely irritating to the eyes, throat, and upper respiratory system. Inhalation of this gas in concentrations of 8 to 12 parts per million in air causes throat irritation, coughing, constriction of the chest, tearing and smarting of the eyes. 150 parts per million is so extremely irritating that it can be endured only for a few minutes. 500 parts per million is so acutely irritating to the upper respiratory tract that it causes a sense of suffocation, even with the first breath.

Out of numerous reported exposures to Sulfur Dioxide, there are few references that would indicate pneumonia as an after effect.

## ENVIRONMENTAL PARAMETERS

AFFECTED FLOOD PLAINS AND/OR WETLANDS: None

FLORA/FAUNA: Abundant sage and grasses, sparse mountain mahogany/Elk, deer, rodents, birds, insects

SOIL TYPE AND CHARACTERISTICS: Sandy loam with abundant gravel.

SURFACE FORMATION & CHARACTERISTICS: Quaternary alluvium on Wasatch Formation.

EROSION/SEDIMENTATION/STABILITY: No active erosion or sedimentation at present. This should be a stable location.

PALEONTOLOGICAL POTENTIAL: None observed

## RESERVE PIT

CHARACTERISTICS: A rectangular reserve pit (140'X 50'X 14') will be included on the well pad.

LINER REQUIREMENTS (Site Ranking Form attached): The pit is to be lined with a synthetic liner with a minimum thickness of 14 mils.

## SURFACE RESTORATION/RECLAMATION PLAN

To be reclaimed as per land owner instructions.

SURFACE AGREEMENT: Anschutz representatives stated that there is a surface agreement in place and that DOGM will be supplied with an affidavit which so states.

CULTURAL RESOURCES/ARCHAEOLOGY: Fee land, none needed.

## OTHER OBSERVATIONS/COMMENTS

This well was originally staked 100' west of the current proposed location. At the time of the onsite it was determined that the well should be moved in order to move it to a legal location as well as to move the reserve pit farther from the steep hillside west of the location. The photos which were taken at the time show a flag at the original site. The center of the new location is approximately in the center of the road where the vehicles are parked as seen in the photograph. A revised APD and plats will be sent to DOGM to reflect the new location information.

## ATTACHMENTS:

Photographs:

GIS map:

Brad Hill  
DOGM REPRESENTATIVE

7/8/96  
DATE/TIME

STATE OF UTAH  
DIVISION OF OIL, GAS AND MINING  
DRILLING INSPECTION FORM

OPERATOR: Anschutz Exploration COMPANY REP: Jerry Blair

WELL NAME: AL & L 4-30 API NO: 43-043-30316

QTR/QTR: NE/NW SECTION: 30 TWP: 5N RANGE: 8E

CONTRACTOR: PARKER RIG NUMBER: 235

INSPECTOR: J. Thompson TIME: 10:30 am DATE: 12/17/96

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TYPE OF WELL: OIL: \_\_\_\_\_ GAS: X WIW: \_\_\_\_\_

SPUD DATE: DRY: \_\_\_\_\_ ROTARY: 10/2/96 PROJECTED T.D.: 12 090'

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OPERATIONS AT TIME OF VISIT: Drilling ahead @ 11,700'. Top of  
Phosphoric formation is approxiamtely 11,800'. Will circulate and  
trip for bit before going into the formation.

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WELL SIGN: Y MUD WEIGHT: 8.8 LBS/GAL BOPE: 5000#

BLOOIE LINE: Y FLARE PIT: Y H2S POTENTIAL: yes

ENVIRONMENTAL:

RESERVE PIT: YES FENCED: NO LINED: YES PLASTIC: YES

RUBBER: \_\_\_\_\_ BENTONITE: \_\_\_\_\_ SANITATION: \_\_\_\_\_

BOPE TEST RECORDED IN THE RIG DAILY TOUR BOOK: Yes

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REMARKS:

H2S monitors are in place. All the contractors and rig crews are H2S  
trained. BOPE'S were last tested on 12/13/96. Last survey was @11,600'  
6 3/4 degrees. Drilling @ 260' an hour. Should TD 19-20th. No water  
has been encountered drilling.

9/23/94

**Evaluation Ranking Criteria and Ranking Score  
For Reserve and Onsite Pit Liner Requirements**

<u>Site-Specific Factors</u>	<u>Ranking</u>	<u>Site Ranking</u>
Distance to Groundwater (feet)		
>200	0	
100 to 200	5	
75 to 100	10	
25 to 75	15	
<25 or recharge area	20	<u>      ?      </u>
Distance to Surf. Water (feet)		
>1000	0	
300 to 1000	2	
200 to 300	10	
100 to 200	15	
< 100	20	<u>      0      </u>
Distance to Nearest Municipal Well (feet)		
>5280	0	
1320 to 5280	5	
500 to 1320	10	
<500	15	<u>      0      </u>
Distance to Other Wells (feet)		
>1320	0	
300 to 1320	10	
<300	20	<u>      0      </u>
Native Soil Type		
Low permeability	0	
Mod. permeability	10	
High permeability	20	<u>     15      </u>
Fluid Type		
Air/mist	0	
Fresh Water	5	
TDS >5000 and <10000	15	
TDS >10000 or Oil Base	20	
Mud Fluid containing high levels of hazardous constituents		<u>     20      </u>
Drill Cuttings		
Normal Rock	0	
Salt or detrimental	10	<u>      5      </u>
Annual Precipitation (inches)		
<10	0	
10 to 20	5	
>20	10	<u>      5      </u>
Affected Populations		
<10	0	
10 to 30	6	
30 to 50	8	
>50	10	<u>      0      </u>
Presence of Nearby Utility Conduits		
Not Present	0	
Unknown	10	
Present	15	<u>      0      </u>
<b>Final Score</b>		<u>     45      </u>

WORKSHEET  
APPLICATION FOR PERMIT TO DRILL

APD RECEIVED: 07/16/96

API NO. ASSIGNED: 43-043-30316

WELL NAME: AL&L 4-30  
OPERATOR: ANSCHUTZ EXPLORATION (N7940)

PROPOSED LOCATION:

NENW 30 - T05N - R08E  
SURFACE: 0533-FNL-1802-FWL  
BOTTOM: 0533-FNL-1802-FWL  
SUMMIT COUNTY  
CAVE CREEK FIELD (515)

LEASE TYPE: FEE  
LEASE NUMBER: PATENTED LAND

PROPOSED PRODUCING FORMATION: WEBER

INSPECT LOCATION BY: 07/18/96

TECH REVIEW	Initials	Date
Engineering		
Geology		
Surface		

RECEIVED AND/OR REVIEWED:

☒ Plat  
☒ Bond: Federal[] State ☒ Fee[]  
(Number 104 253)  
☒ Potash (Y/N)  
☒ Oil shale (Y/N)  
☒ Water permit  
(Number PERMITTED WATERWELL)  
☒ RDCC Review (Y/N) will be drilled  
(Date: \_\_\_\_\_)

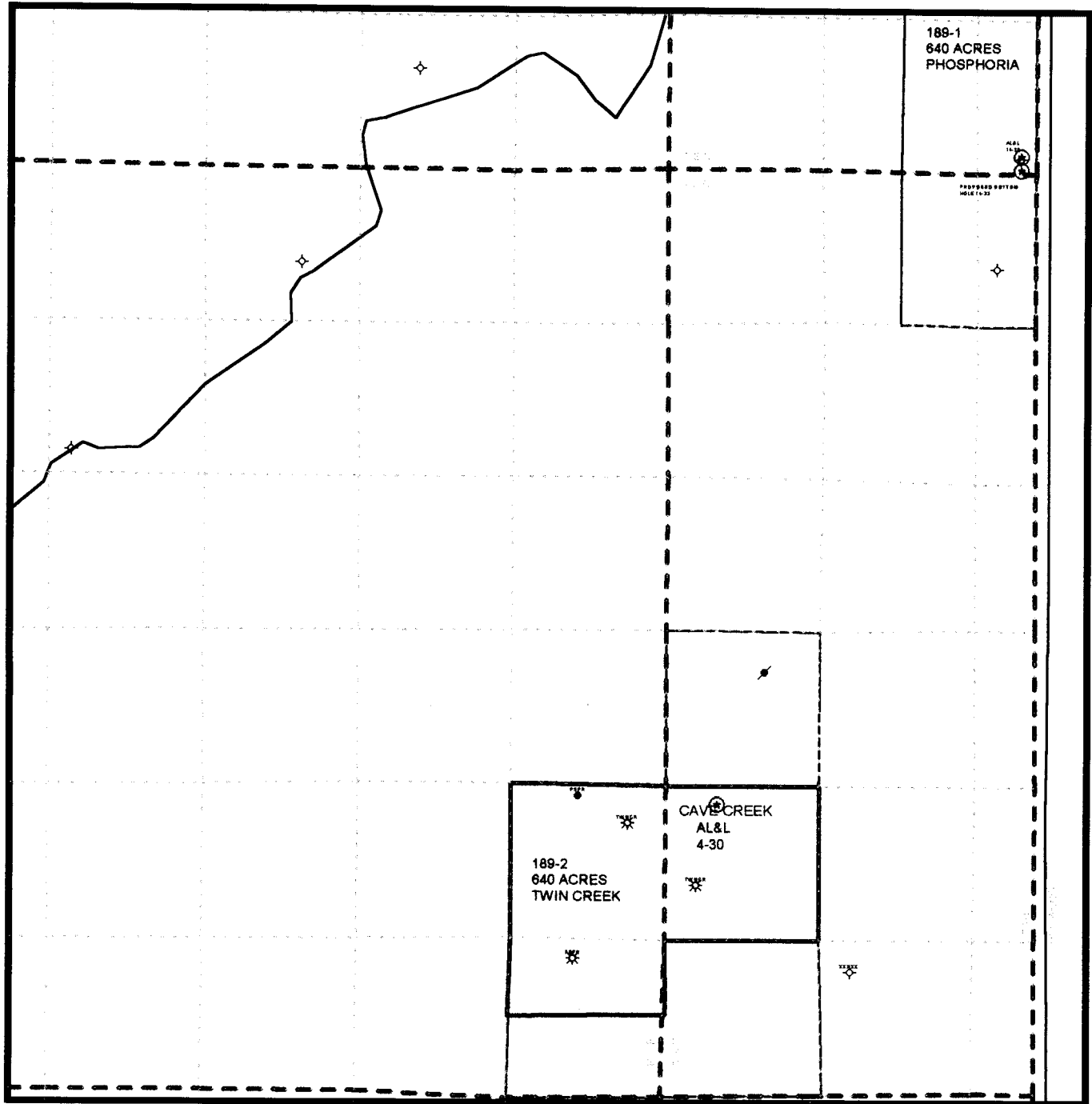
LOCATION AND SITING:

\_\_\_ R649-2-3. Unit: \_\_\_\_\_  
☒ R649-3-2. General.  
\_\_\_ R649-3-3. Exception.  
\_\_\_ Drilling Unit.  
\_\_\_ Board Cause no: \_\_\_\_\_  
\_\_\_ Date: \_\_\_\_\_

COMMENTS: \_\_\_\_\_

STIPULATIONS: \_\_\_\_\_

ANSCHUTZ EXPLORATION CORP.  
EXPLORATORY DRILLING  
SEC. 33, T5N, R8E  
SUMMIT COUNTY, UAC R649-3-3



PREPARED:  
DATE: 1-JUL-96



**DIVISION OF OIL, GAS AND MINING**  
**APPLICATION FOR PERMIT TO DRILL**  
**STATEMENT OF BASIS**

**Operator Name:** Anschutz Corporation

**Name & Number:** AL&L #4-30

**API Number:** 43-043-30316

**Location:** 1/4, 1/4 NE NW Sec. 30 T. 5N R. 8E

**Geology/Ground Water:**

The surface geology at the proposed location consists of alluvium over Wasatch Formation. High quality ground water is present in the cretaceous age rocks through the Frontier Formation. A 20 inch casing is going to be set at 1500 feet and cemented to surface. This will protect all water encountered to this depth. It is proposed to set a 13 3/8" casing at 5900 feet and to circulate cement back to 3300 feet. Considering that the Frontier Formation will be encountered at approximately 2500 feet, it is recommended that cement should be circulated to a minimum of 2500 feet or a DV tool be used to stage the cement. The additional proposed casing and cement program should adequately protect and isolate additional zones of water encountered.

**Reviewer:** D. Jarvis

**Date:** 7/25/96

**Surface:**

An onsite evaluation was done on this proposed location on July 8, 1996. No significant surface problems were noted. The waste management program was discussed and it was agreed that all human waste and refuse would be contained on location while drilling and would be hauled from the location and disposed of in a proper manner. The drill cuttings will be dried and buried in the reserve pit. Water for drilling will be obtained through a reappropriation of the livestock water at the Anschutz Ranch. Evidence of a surface agreement will be sent to DOGM. The reserve pit is to be lined with a synthetic liner and the location is to be bermed to prevent runoff from the pad.

**Reviewer:** Brad Hill

**Date:** 7/22/96

**Conditions of Approval/Application for Permit to Drill:**

1. Reserve pit is to be lined with a synthetic liner with a minimum thickness of 14 mils.
2. The entire location is to be bermed to prevent any fluids from running off of the pad.

ON-SITE PREDRILL EVALUATION

Division of Oil, Gas and Mining

OPERATOR: Anschutz Corporation

WELL NAME & NUMBER: AL&L #4-30

API NUMBER: 43-043-30316

LEASE: FEE FIELD/UNIT: Cave Creek

LOCATION: 1/4, 1/4 NE NW Sec: 30 TWP: 5N RNG: 8E 533 FNL 1802 FWL

LEGAL WELL SITING: 460F SEC. LINE; 460F 1/4, 1/4 LINE; 920 F ANOTHER WELL.

SURFACE OWNER: Anschutz Land & Livestock

PARTICIPANTS

Brad Hill & Dan Jarvis - DOGM; Miles Williams, Bill Miller, Dan  
Gallagher & Larry Williams - Anschutz; Stan Taggart - Uinta  
Engineering (surveyor); Lisa Smith-Permitco Inc.

REGIONAL/LOCAL SETTING & TOPOGRAPHY

The proposed location lies within the Wasatch Hinterland  
physiographic province of Utah. This is an area of large rounded  
hills which are separated by moderately sized drainage and is  
located between the Wasatch Mountains to the west and the Bear River  
Drainage to the east. The pad for the proposed well will be built on  
the crest of a hill and will straddle an existing road. The hill  
slopes away gently to the north, south, and east. The hill flattens  
out on the west side of the location and then drops off steeply  
approximately 100 yards past the edge of the pit.

SURFACE USE PLAN

CURRENT SURFACE USE: Domestic and wildlife grazing.

PROPOSED SURFACE DISTURBANCE: A rectangle shaped pad (375'X 260') will  
be constructed which will include a 140'X 50' reserve pit. No access  
road will be constructed. The existing road will be routed across  
the location when the well is completed.

LOCATION OF EXISTING WELLS WITHIN A 1 MILE RADIUS: There are three  
wells in the Cave Creek Field within a 1 mile radius (see attached  
map). No water wells are known to be within a 1 mile radius.

LOCATION OF PRODUCTION FACILITIES AND PIPELINES: If productive the  
well will be tied to the Wasatch system on the Cave Creek lateral.

SOURCE OF CONSTRUCTION MATERIAL: Onsite materials will be used for  
construction.

ANCILLARY FACILITIES: None

WASTE MANAGEMENT PLAN:

Portable chemical toilets will be used onsite and hauled away after  
the well is drilled. All refuse will be contained on location and  
hauled off when drilling is completed. Drill cutting will be  
contained in the reserve pit and dried and buried upon completion.

**STATE OF UTAH, DIV OF OIL, GAS & MINERALS**

<b>Operator: ANSCHUTZ EXPLORATION C</b>	<b>Well Name: A L &amp; L 4-30</b>
<b>Project ID: 43-043-30316</b>	<b>Location: SEC. 30 - T05N - R08E</b>

Design Parameters:

Mud weight (10.50 ppg) : 0.545 psi/ft  
 Shut in surface pressure : 4503 psi  
 Internal gradient (burst) : 0.115 psi/ft  
 Annular gradient (burst) : 0.000 psi/ft  
 Tensile load is determined using air weight  
 Service rating is "Sweet"

Design Factors:

Collapse : 1.125  
 Burst : 1.00  
 8 Round : 1.80 (J)  
 Buttress : 1.60 (J)  
 Other : 1.50 (J)  
 Body Yield : 1.50 (B)

	Length (feet)	Size (in.)	Weight (lb/ft)	Grade	Joint	Depth (feet)	Drift (in.)	Cost
1	2,600	13.375	68.00	N-80	ST&C	2,600	12.259	
2	1,500	13.375	72.00	N-80	ST&C	4,100	12.250	
3	1,500	13.375	72.00	S-95	ST&C	5,600	12.250	
4	300	13.375	80.70	S-95	Buttress	5,900	12.059	

	Load (psi)	Collapse Strgth (psi)	S.F.	Burst Load (psi)	Min Int Strgth (psi)	Yield S.F.	Load (kips)	Tension Strgth (kips)	S.F.
1	1418	2144	1.512	4802	5020	1.05	417.01	963	2.31 J
2	2236	2607	1.166	4975	5380	1.08	240.21	1040	4.33 J
3	3055	3459	1.132	5147	6390	1.24	132.21	1215	9.19 J
4	3218	4990	1.551	5182	7210	1.39	24.21	2173	89.76 J

Prepared by : MATTHEWS, Salt Lake City, Utah  
 Date : 07-29-1996  
 Remarks :

Minimum segment length for the 5,900 foot well is 1,500 feet.

SICP is based on the ideal gas law, a gas gravity of 0.69, and a mean gas

temperature of 157°F (Surface 74°F, BHT 241°F & temp. gradient 1.400°/100 ft.)

String type: Intermediate - Drlg

Next string will set at 11,900 ft. with 9.50 ppg mud (pore pressure of 5,873

psi.) The frac gradient of 1.000 psi/ft at 9,500 feet results in an injection

pressure of 9,500 psi Effective BHP (for burst) is 5,182 psi.

**NOTE:** The design factors used in this casing string design are as shown above. As a general guideline, Lone Star Steel recommends using minimum design factors of 1.125 - collapse (with evacuated casing), 1.0 - (uniaxial) burst, 1.8 - API 8rd tension, 1.6 - buttress tension, 1.5 - body yield tension, and 1.6 - EUE 8rd tension. Collapse strength under axial tension was calculated based on the Westcott, Dunlop and Kemler curve. Engineering responsibility for use of this design will be that of the purchaser.  
 Costs for this design are based on a 1987 pricing model. (Version 1.07)

**STATE OF UTAH, DIV OF OIL, GAS & MINERALS**

<b>Operator: ANSCHUTZ EXPLORATION C</b>	<b>Well Name: A L &amp; L 4-30</b>
<b>Project ID: 43-043-30316</b>	<b>Location: SEC. 30 - T05N - R08E</b>

Design Parameters:

Mud weight ( 9.50 ppg) : 0.494 psi/ft  
 Shut in surface pressure : 5070 psi  
 Internal gradient (burst) : 0.129 psi/ft  
 Annular gradient (burst) : 0.000 psi/ft  
 Tensile load is determined using buoyed weight  
 Service rating is "Sweet"

Design Factors:

Collapse : 1.125  
 Burst : 1.00  
 8 Round : 1.80 (J)  
 Buttress : 1.60 (J)  
 Other : 1.50 (J)  
 Body Yield : 1.50 (B)

Length (feet)		Size (in.)	Weight (lb/ft)	Grade	Joint	Depth (feet)	Drift (in.)	Cost	
1	8,000	9.625	47.00	L-80	LT&C	8,000	8.625		
2	3,900	9.625	47.00	HCL-80	LT&C	11,900	8.625		
	Collapse Load Strgth S.F. (psi) (psi)			Burst Load (psi)	Min Int Strgth (psi)	Yield S.F.	Tension Load Strgth S.F. (kips) (kips)		
1	3948	4535	1.149	6102	6870	1.13	478.06	893	1.87 J
2	5873	7100	1.209	6605	6870	1.04	156.67	1027	6.56 J

Prepared by : MATTHEWS, Salt Lake City, Utah  
 Date : 07-29-1996  
 Remarks :

PHOSPHORIA/WEBER

Minimum segment length for the 11,900 foot well is 1,500 feet.

SICP is based on the ideal gas law, a gas gravity of 0.69, and a mean gas

temperature of 157°F (Surface 74°F , BHT 269°F & temp. gradient 1.400°/100 ft.)

String type: Intermediate - Prod

**NOTE:** The design factors used in this casing string design are as shown above. As a general guideline, Lone Star Steel recommends using minimum design factors of 1.125 - collapse (with evacuated casing), 1.0 - (uniaxial) burst, 1.8 - API 8rd tension, 1.6 - buttress tension, 1.5 - body yield tension, and 1.6 - EUE 8rd tension. Collapse strength under axial tension was calculated based on the Westcott, Dunlop and Kemler curve. Engineering responsibility for use of this design will be that of the purchaser.  
 Costs for this design are based on a 1987 pricing model. (Version 1.07)

**STATE OF UTAH, DIV OF OIL, GAS & MINERALS**

**Operator: ANSCHUTZ EXPLORATION C | Well Name: A L & L 4-30**

**Project ID: 43-043-30316 | Location: SEC. 30 - T05N - R08E**

**Design Parameters:**

Mud weight ( 9.50 ppg) : 0.494 psi/ft  
 Shut in surface pressure : 5264 psi  
 Internal gradient (burst) : 0.115 psi/ft  
 Annular gradient (burst) : 0.000 psi/ft  
 Tensile load is determined using air weight  
 Service rating is "Sweet"

**Design Factors:**

Collapse : 1.125  
 Burst : 1.00  
 8 Round : 1.80 (J)  
 Buttress : 1.60 (J)  
 Other : 1.50 (J)  
 Body Yield : 1.50 (B)

Length (feet)		Size (in.)	Weight (lb/ft)	Grade	Joint	Depth (feet)	Drift (in.)	Cost	
1	2,209	7.000	32.00	L-80	LT&C	13,909	6.000		
	Load (psi)	Collapse Strgth (psi)	S.F.	Burst Load (psi)	Min Int Strgth (psi)	Yield S.F.	Tension Load (kips)	Strgth (kips)	S.F.
1	6864	8610	1.254	6864	9060	1.32	70.69	661	9.35 J

Prepared by : MATTHEWS, Salt Lake City, Utah  
 Date : 07-29-1996  
 Remarks :

Minimum segment length for the 13,909 foot well is 1,500 feet.  
 SICP is based on the ideal gas law, a gas gravity of 0.69, and a mean gas temperature of 157°F (Surface 74°F , BHT 269°F & temp. gradient 1.400°/100 ft.)  
 The liner string design has a specified top of 11,700 feet.  
 The burst load shown is the pressure at the bottom of the segment.  
 String type: Liner - Production  
 The mud gradient and bottom hole pressures (for burst) are 0.494 psi/ft and 6,864 psi, respectively.

**NOTE:** The design factors used in this casing string design are as shown above. As a general guideline, Lone Star Steel recommends using minimum design factors of 1.125 - collapse (with evacuated casing), 1.0 - (uniaxial) burst, 1.8 - API 8rd tension, 1.6 - buttress tension, 1.5 - body yield tension, and 1.6 - EUE 8rd tension. Collapse strength under axial tension was calculated based on the Westcott, Dunlop and Kemler curve. Engineering responsibility for use of this design will be that of the purchaser.  
 Costs for this design are based on a 1987 pricing model. (Version 1.07)

10/7/96

FRM: For your info.

CEMENTING OPERATIONS  
10/5/96-10/6/96  
ANSCHUTZ EXPLORATION.  
AL & L EXPLORATION  
30-5N-8E  
43-043-30316

10/5/96- Called rig @ 7:30 am. Co. man said rigging up to run 20" csg-Supposed to take 4-5 hrs.

9:30 am-11:30am-

Left SLC for rig. Casing on location had wrong threads for float collar. Csg was buttress thread and the float collar was fine. Co. Man called out welder @ 10:30 am. Welding on float collar, at time of arrival. Needed 1 hour to weld csg and 1 ½ hrs to cool before RIH.

11:45am-

Left location to inspect the SST rig 56, drilling north of Coalville. Inspected rig and first inspection of the Blonquist 26-1H, completed this summer.

2:00pm-11:00pm-

Returned to location-had 2 joints of 20" ran. 34 joints remaining. Centralized csg every third joint-filled csg string every fifth joint. Finished running 20" csg. Rigged up packoff assembly, RIH 19 joints of casing for stinger. Tool joint landed on seal of packoff. POOH made up one more joint of csg. RIH. Dowell rigged up cement head. Pressured up packoff-(leaked). Rigged down top assembly-re-assembled, re-pressured-(leaked). Rigged down top assembly changed lock rings and rubber seals. Pressured up to 400#'s. Circulated hole for 45 minutes.

11:30pm-1:00am-

Started cement job.

1:00am-1:45am-

WOC for minutes. Cement stayed in place.  
^ 45

2:00am-4:00am-

Left location-arrived home 4:00 am.

STATE OF UTAH  
DIVISION OF OIL, GAS AND MINING  
CEMENTING OPERATIONS

WELL NAME: AL & L 4-30 API NO: 43-043-30316

QTR/QTR: NE/NW SECTION: 30 TOWNSHIP: 5N RANGE: 8E

COMPANY NAME: ANSCHUTZ EXPL COMPANY MAN JERRY BLAIR

INSPECTOR: JLT DATE: 11:30 AM-10/5/96 TO 2:00 AM-10/6/96

CASING INFORMATION: SURFACE CASING: X OTHER: \_\_\_\_\_

SIZE: 20" GRADE: 106 # HOLE SIZE: 26" DEPTH: 1530'

PIPE CENTRALIZED: YES: YES NO: \_\_\_\_\_ CEMENTING CO. DOWELL

CEMENTING STAGES: 1 STAGE TOOL @: \_\_\_\_\_

SLURRY INFORMATION:

1. LEAD 1680 SX (536 BBLs)-35-65 POS-6% D-20 GEL-2% CAL.  
1/4 D-29 LCM.

2. SLURRY: 850 SX (174 BBLs) CLASS "G" NEAT-2% S-1 1/4 D-20  
LCM.

3. SLURRY: RAN 30 BBLs WATER AHEAD-20 BBLs TAIL.

4. SLURRY: \_\_\_\_\_

5. SLURRY: \_\_\_\_\_

6. CEMENT TO SURFACE: YES: X NO: \_\_\_\_\_ LOST RETURNS: YES: \_\_\_\_\_ NO: X

7. 1 INCH INFORMATION: CLASS: \_\_\_\_\_ ADDITIVES: \_\_\_\_\_

CEMENT WEIGHT: 15.8 CEMENT TO SURFACE: \_\_\_\_\_

LENGTH OF 1 INCH: \_\_\_\_\_ FT.

ADDITIONAL COMMENTS: 10/7/96-Rig called-Tested Hydril with rig  
pump to 1500#s. Drl ahead.

**CONFIDENTIAL**

DIVISION OF OIL, GAS AND MINING

SPUDDING INFORMATION

Name of Company: ANSCHUTZ EXPLORATION CORP.

Well Name: AL & L 4-30

Api No. 43-043-30316

Section 30 Township 5N Range 8E County SUMMIT

Drilling Contractor PARKER

Rig #: 235

SPUDDED:

Date: 10/2/96

Time: AM

How: ROTARY

Drilling will commence: \_\_\_\_\_

Reported by: JERRY BLAIR

Telephone #: \_\_\_\_\_

Date: 10/1/96 Signed: JLT

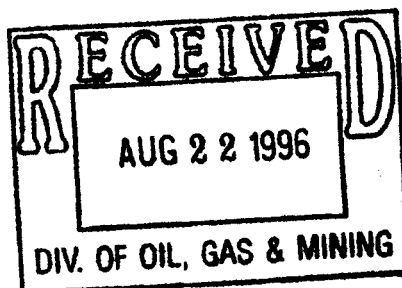




**INTER-MOUNTAIN SAFETY CO., INC.**  
66 WALKER ROAD  
EVANSTON, WYOMING 82930  
307/789-3882

August 21, 1996

Frank Matthews  
Utah Division of Oil & Gas  
Salt Lake City, UT.



Dear Mr. Matthews

I have enclosed a copy of the H<sub>2</sub>S contingency plan for the Anschutz Exploration Co AL&L # 4-30 well. Dave Dlouhy with Anschutz asked that I mail this copy to you.

Please let me know if you need any additional information or have any questions.

Sincerely,

  
Frank Kaunitz

**Western Environmental Services & Testing, Inc.**

78 Imperial Drive, Suite I  
Evanston, Wyoming 82930  
307-789-6420

**Sample ID** 4-30  
**WEST Lab #** E9725711A

**Customer:** UNION PACIFIC RESOURCES  
**Date sampled** 01-27-97  
**Sample ID #** 4-30  
**W.E.S.T. Lab #** E9725711A  
**Date analyzed** 01-27-97  
**Sample pressure (PSIG)** 180  
**Temperature (DEG F)** 110

**Sample source:**

SEPARATOR

**Other sample information:**

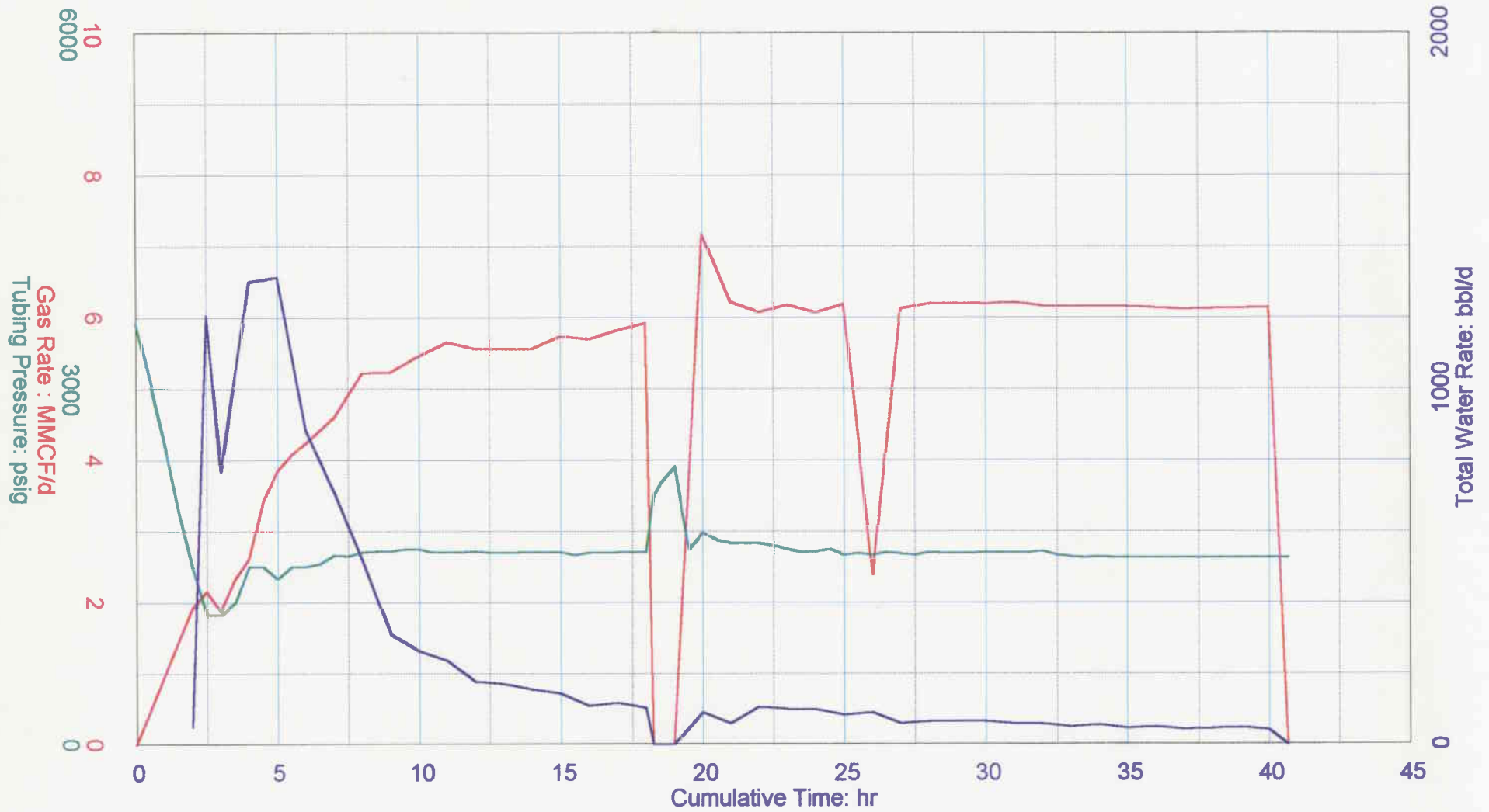
SAMPLED @ 0700hrs  
ANSCHUTZ LAND & LIVESTOCK  
#4-30

**Comments:**

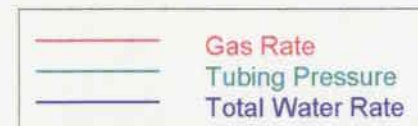
Sample heated to 124 ° F.

<u>Gas:</u>	<u>MOLE PERCENT</u>	<u>GAL per 1000 Cu Ft</u>	<u>Calculated properties at 60 Deg F, 14.730 PSIA</u>
HYDROGEN SULFIDE	17.039%		IDEAL
CARBON DIOXIDE	1.201%		DRY BTU: 1030.38
NITROGEN	1.920%		*COMPRESS.: 0.99635
OXYGEN	0.000%		SPEC. GRAV. 0.75469
METHANE	71.349%		C6+ MOL. WT. 94.199
ETHANE	5.234%	1.400	DRY BTU 1034.15
PROPANE	1.595%	0.440	SAT BTU 1017.04
ISOBUTANE	0.388%	0.127	PER REAL CF
BUTANE	0.452%	0.143	WOBBE
ISOPENTANE	0.186%	0.068	INDEX 1190
PENTANE	0.143%	0.052	
HEXANES	0.297%	0.122	
HEPTANES	0.139%	0.064	
OCTANES	0.038%	0.019	
NONANES	0.009%	0.005	
<u>DECANES PLUS</u>	<u>0.010%</u>	<u>0.006</u>	
TOTAL	100.000%	2.446 C2+	Calculation methods based
		1.046 C3+	on GPA reference bulletin
HEXANES PLUS	0.493%	0.216 C6+	181-86 & physical constants
			are from GPA 2145

# Anschutz 4-30



Clean Up  
Jan 25-27, 1997



DOUBLE JACK TESTING & SERVICES, INC.

PHONE (307) 276-5265

B.O.P. TEST REPORT

B.O.P. TEST PERFORMED ON (DATE) 11-12-96

OIL COMPANY Anschutz Corp.

WELL NAME & NUMBER Cave Creek 4-30

SECTION 30

TOWNSHIP 5N

RANGE 8E

COUNTY & STATE Summit, Utah

DRILLING CONTRACTOR Parker 235

OIL COMPANY SITE REPRESENTATIVE Jerry Blair

RIG TOOL PUSHER \_\_\_\_\_

TESTED OUT OF Big Piney, Wyo.

NOTIFIED PRIOR TO TEST \_\_\_\_\_

COPIES OF THIS TEST REPORT SENT TO:

Utah Oil & Gas

Utah BXM

Jerry Blair

ORIGINAL REPORT & TEST REPORT ON FILE AT:

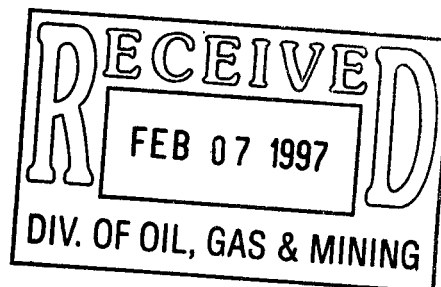
DOUBLE JACK TESTING & SERVICES, INC.

P.O. BOX 4189

MORRISON, WY 83113

TESTED BY:

David Adelson



# Double Jack Testing & Services Inc.

FIELD TICKET  
Nº 012776

Accounting Office: P.O. Box 516 Shoshoni, WY 82649 • (307) 876-9390

Field Operations: Shoshoni, WY (307) 876-2308  
Rock Springs, WY (307) 382-4020  
Evanston, WY (307) 789-9213  
Big Piney, WY (307) 276-5265  
Vernal, UT (801) 781-0448

DATE 11-12-96

OPERATOR Anschutz 2 Corp.

RIG NAME & NO. Parker 235

WELL NAME & NO. Cave Creek 4-30

COUNTY Summit STATE Utah SECTION Sec 30 TOWNSHIP T5N RANGE R8E

Items Tested:	LOW TEST PSI	TIME HELD MINUTES	HIGHEST PSI	TIME HELD MINUTES	
Top Pipe Rams	<u>250</u>	<u>5</u>	<u>5000</u>	<u>10</u>	Closing Unit PSI <u>3000</u>
Bottom Pipe Rams	<u>250</u>	<u>5</u>	<u>5000</u>	<u>10</u>	Closing Time of Rams <u>45 sec</u>
Blind Rams	<u>250</u>	<u>5</u>	<u>5000</u>	<u>10</u>	Closing Time of Annular <u>25 sec</u>
Annular B.O.P.	<u>250</u>	<u>5</u>	<u>2000</u>	<u>10</u>	Closed Casing Head Valve <u>yes</u>
Choke Manifold	<u>250</u>	<u>5</u>	<u>5000</u>	<u>10</u>	Set Wear Sleeve <u>yes</u>
Choke Line	<u>250</u>	<u>5</u>	<u>5000</u>	<u>10</u>	
Kill Line	<u>250</u>	<u>5</u>	<u>5000</u>	<u>10</u>	
Super Choke	<u>250</u>	<u>5</u>	<u>5000</u>	<u>10</u>	
Upper Kelly	<u>250</u>	<u>5</u>	<u>5000</u>	<u>10</u>	
Lower Kelly	<u>250</u>	<u>5</u>	<u>5000</u>	<u>10</u>	
Floor Valve	<u>250</u>	<u>5</u>	<u>5000</u>	<u>10</u>	
Dart Valve	<u>250</u>	<u>5</u>	<u>5000</u>	<u>10</u>	
Casing					

## COMMENTS

## ADDITIONAL TESTS & COMMENTS

C. Hand  
Utah at 2 gas  
02m

TEST PLUG 12" away 1F 4 1/2 IF 1 1/2 x 1 1/2  
RET. TOOL 1 1/2 x 1 1/2  
TOP SUB. 1 1/2 x 1 1/2  
KELLY SUB. 1 1/2 x 1 1/2  
X-OVER SUB. \_\_\_\_\_

## RATES

UNIT RATES Setup charge 7hr, 10:00 pm to 11:00 pm  
ADDITIONAL 4hr at 50<sup>00</sup> a hour  
MILEAGE \_\_\_\_\_  
METHANOL 30 gal at 2<sup>00</sup> a gal  
OTHER \_\_\_\_\_

PURCHASE ORDER

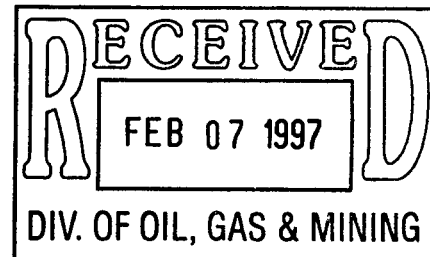
TESTED BY

COMPANY REPRESENTATIVE

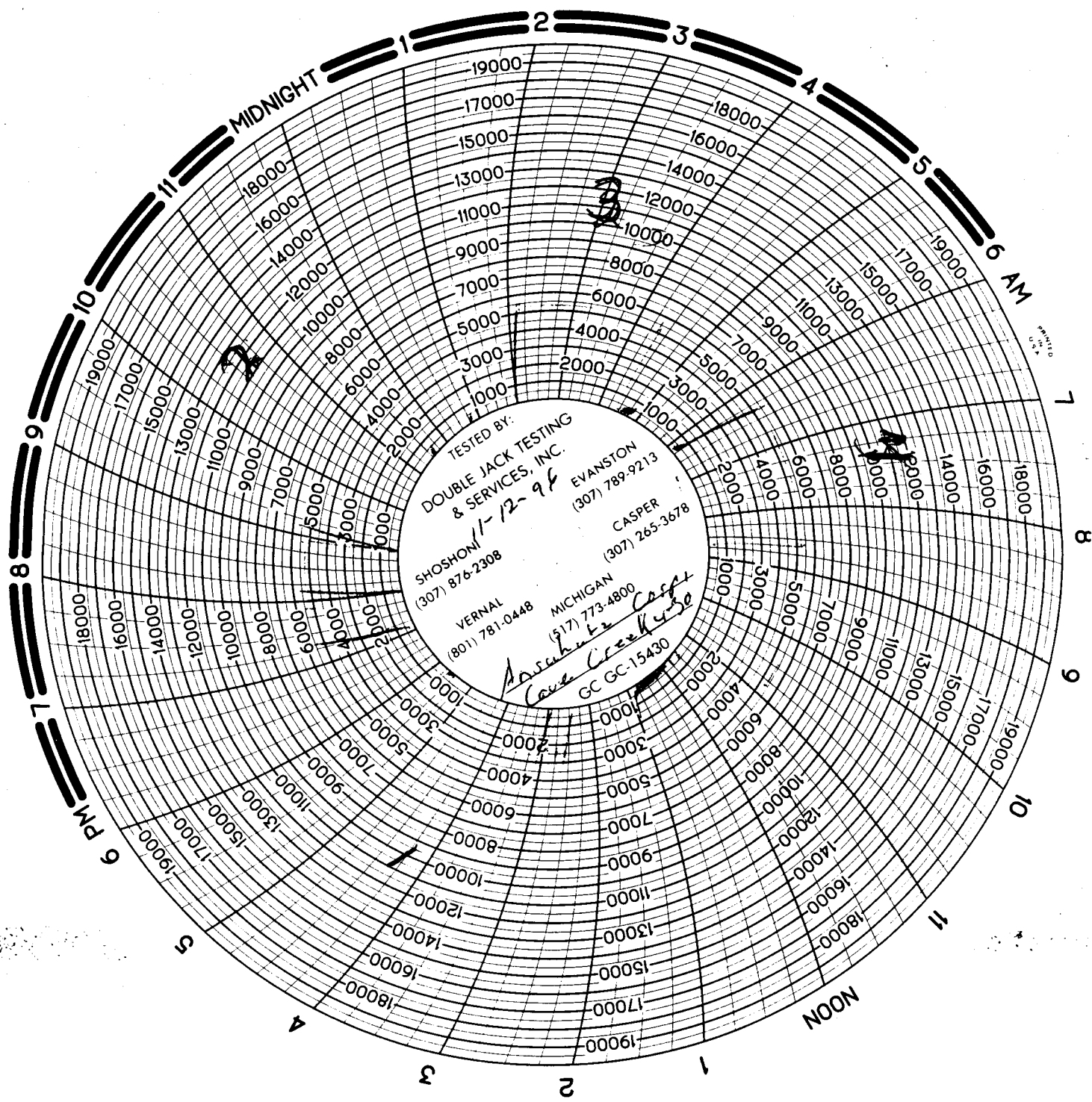
DOUBLE JACK TESTING UNIT NUMB

## NOTICE TO ALL CUSTOMERS

If this account shall not be paid when due and it is placed with an attorney for collection, or if suit be instituted for collection, the cost of collection including attorney's fees and court cost in compliance with TRUTH IN LENDING AND THE UNIFORM CONSUMER CREDIT ACT, terms of our regular accounts, all amounts for service due and payable within THIRTY (30) DAYS from the receipt of an invoice for service are not paid when due. THE LATE CHARGE is computed by a "periodic rate" 1-3/4% PER MONTH which is an ANNUAL PERCENTAGE RATE on the billing date. No further credit can be extended on unpaid delinquent accounts until the delinquent account is paid in full. In the event of God, or unforeseen circumstances that could not be reasonably anticipated in performing the work done as set forth above.



PRINTED  
U.S.A.



TESTED BY:  
DOUBLE JACK TESTING  
& SERVICES, INC.  
11-12-96

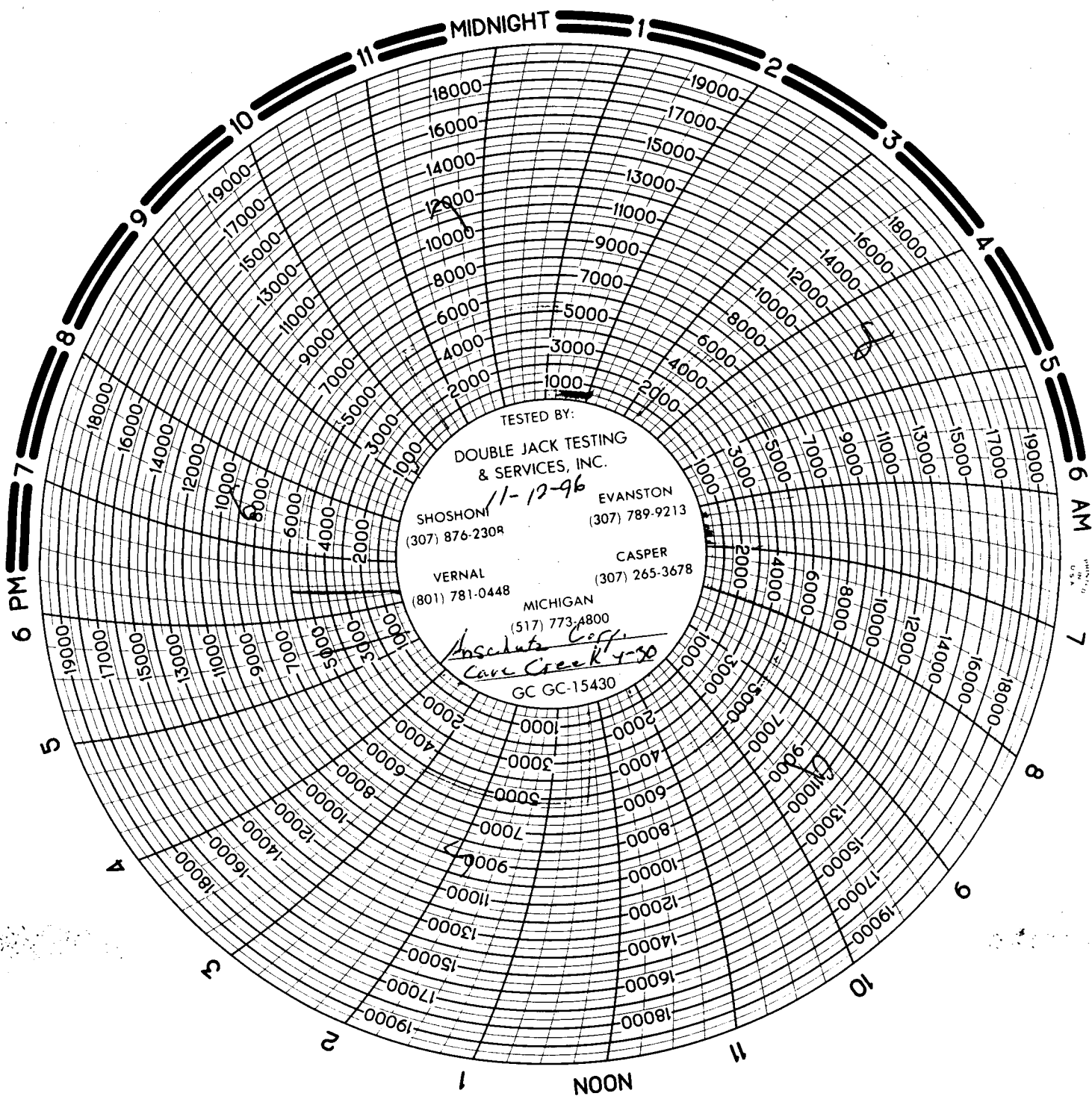
SHOSHONI  
(307) 876-2308

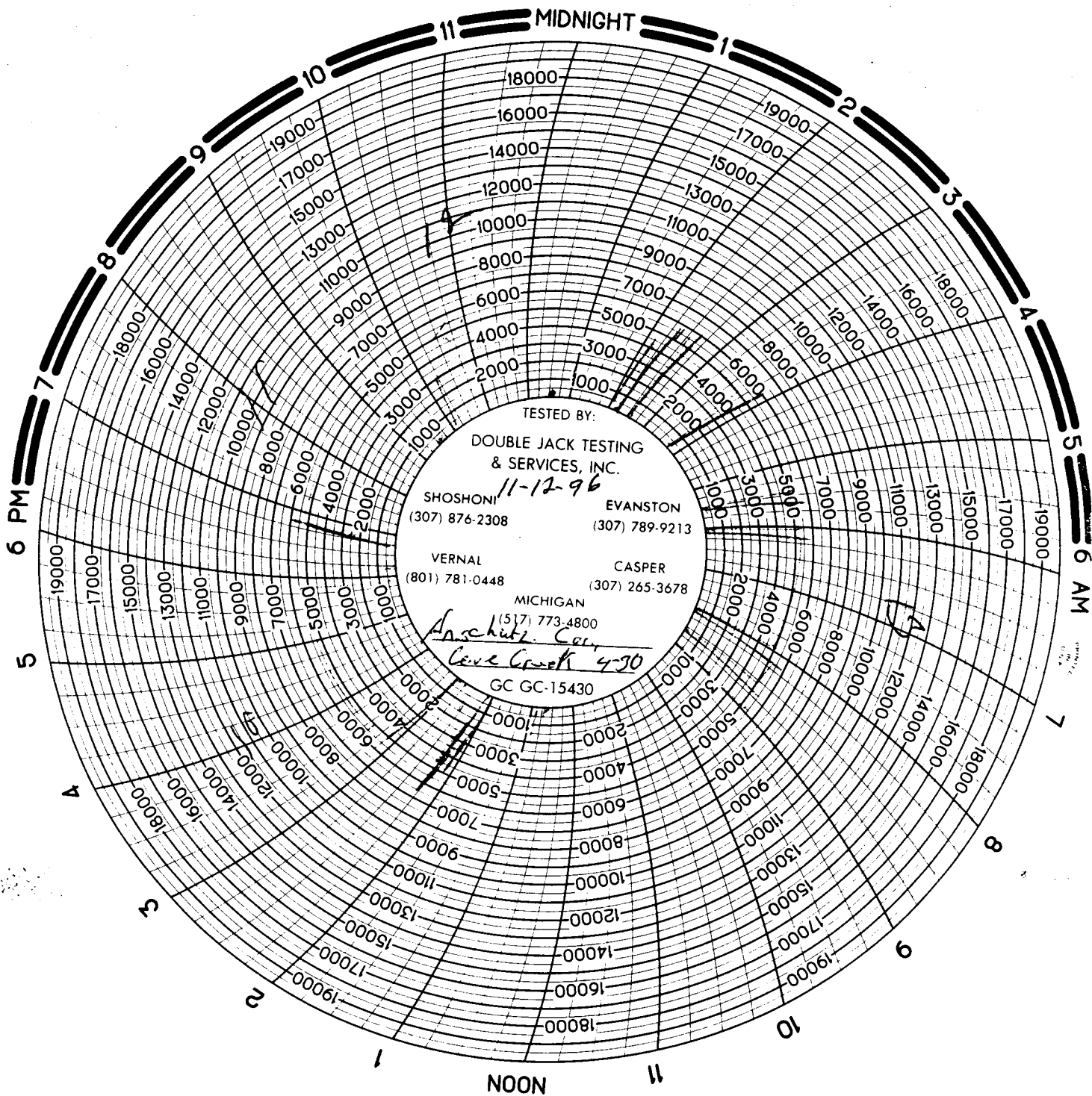
VERNAL  
(801) 781-0448

EVANSTON  
(307) 789-9213

CASPER  
(307) 265-3678

*Asphalt*  
*Cave Creek*  
GC GC-15430







# DOUBLE JACK TESTING

DATE 11-12-96

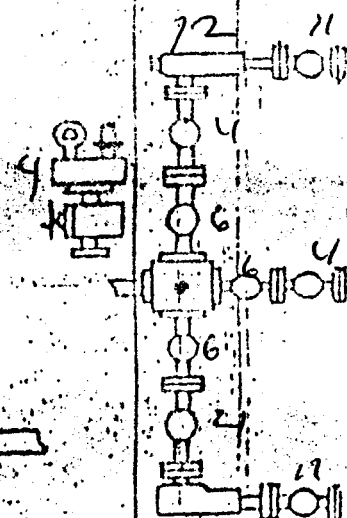
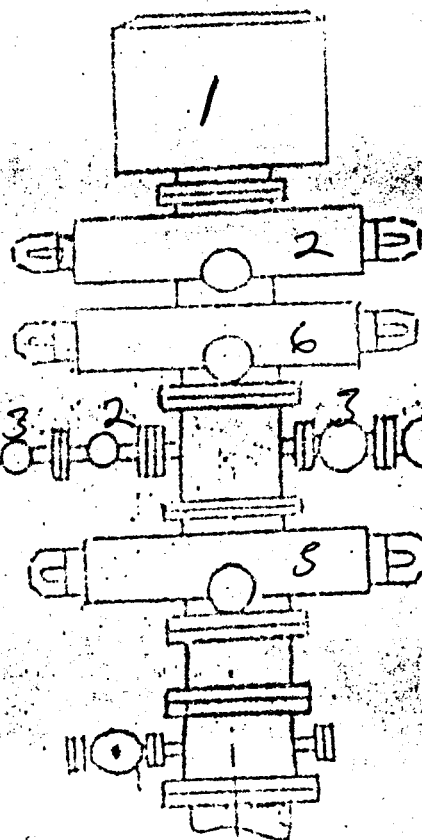
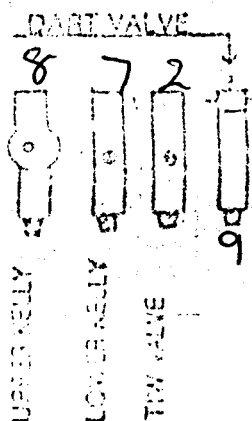
RIG Park No 285

OPERATOR Anschütz Corp.

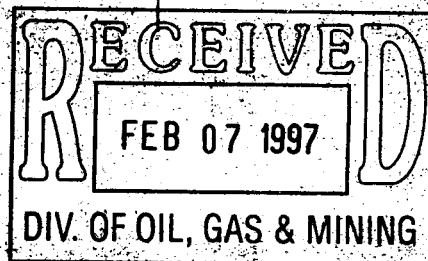
WELL Core Creek

4-30

12:30	TEST #1	Hy Drill
1:00	TEST #2	Top pipe Rams 1st Kill HCR valve TIW valve
2:15	TEST #3	2nd Kill 1st choke
2:45	TEST #4	Outside manifold Riser valve
3:35	TEST #5	Baddeley pipe rams
4:15	TEST #6	Blind Rams inside manifold
5:10	TEST #7	Lower Kelly
5:30	TEST #8	Upper Kelly
6:05	TEST #9	Bar 4 Valve
6:35	TEST #10	Check valves Super choke
7:05	TEST #11	Down Stream valve
7:20	TEST #12	man choke
8:30		13 Choke valve



ACCUMULATOR TEST



STATE OF UTAH  
DIVISION OF OIL, GAS AND MINING  
ENTITY ACTION FORM - FORM 6

OPERATOR The Anschutz Corporation  
ADDRESS 555 17th Street, Suite 2400  
Denver, CO 80202

OPERATOR ACCT. NO. N 7940

ACTION CODE	CURRENT ENTITY NO.	NEW ENTITY NO.	API NUMBER	WELL NAME	WELL LOCATION					SPUD DATE	EFFECTIVE DATE
					QQ	SC	TP	RG	COUNTY		
A	99999	12092	43-043-30316	AL & L No. 4 - 30	NE,NW	30	5N	8E	Summit	10/2/96	
WELL 1 COMMENTS: <i>Entity added 7-19-97. Lee</i>											
WELL 2 COMMENTS:											
WELL 3 COMMENTS:											
WELL 4 COMMENTS:											
WELL 5 COMMENTS:											

ACTION CODES (See Instructions on back of form)

- A - Establish new entity for new well (single well only)
- D - Add new well to existing entity (group or unit well)
- C - Re-assign well from one existing entity to another existing entity
- N - Re-assign well from one existing entity to a new entity
- E - Other (explain in comments section)

NOTE: Use COMMENTS section to explain why each Action Code was selected.

(3/89)

*James Oursland*  
Signature James Oursland  
Engineering Mgr. : 3/14/97  
Title Date  
Phone No. (713) 750-0210

STATE OF UTAH  
DIVISION OF OIL, GAS AND MININGAPR 19 1997  
DIVISION OF OIL, GAS & MINING

## WELL COMPLETION OR RECOMPLETION REPORT AND LOG

1. TYPE OF WELL: OIL WELL ☐ GAS WELL ☒ DRY ☐ Other \_\_\_\_\_  
2. TYPE OF COMPLETION: NEW WELL ☒ WORK OVER ☐ DEEP-EN ☐ PLUG BACK ☐ DIFF. RESVR. ☐ Other \_\_\_\_\_

## 2. NAME OF OPERATOR

The Anschutz Corporation

## 3. ADDRESS OF OPERATOR

555 17th Street, # 2400, Denver CO 80202

## 4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)

At surface 533' FNL &amp; 1702' FWL, Sec. 30, T5N, R8E

At top prod. interval reported below Same

At total depth Same

## 5. LEASE DESIGNATION AND SERIAL NO.

## 6. IF INDIAN, ALLOTTEE OR TRIBE NAME

N/A

## 7. UNIT AGREEMENT NAME

N/A

## 8. FARM OR LEASE NAME

AL &amp; L

## 9. WELL NO.

# 4-30

## 10. FIELD AND POOL OR WILDCAT

Wildcat

## 11. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA

T5N-R8E, Sec. 30.

## 14. API NO.

43-043-30316

## DATE ISSUED

7-29-96

## 12. COUNTY

Summit

## 13. STATE

Utah

## 15. DATE STUBBED

10/2/96

## 16. DATE T.D. REACHED

12/24/96

## 17. DATE COMPL. (Ready to prod.)

1/25/97

(Plug &amp; ABL)

## 18. ELEVATIONS (DF, SER, RT, GR, ETC.)

7,337' KB

## 19. ELEV. CASINGHEAD

## 20. TOTAL DEPTH, MD &amp; TVD

12,300'

## 21. PLUG BACK T.D., MD &amp; TVD

12,300'

## 22. IF MULTIPLE COMPL.

N/A

## 23. INTERVALS

DEELED BY

## ROTARY TOOLS

0-12,300'

## CABLE TOOLS

N/A

## 24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)

11,782' - 12,156' Phosphoria

## 25. WAS DIRECTIONAL

No

## 26. TYPE ELECTRIC AND OTHER LOGS RUN

✓AIT/LDT - CNL/DS/FML - GR 4-29-97

27. WAS WELL CORED YES ☐ NO ☒ (See notes on log)DRILL STEM TEST YES ☐ NO ☒ (See resource code)

## 28. CASING RECORD (Report all strings set in well)

CASING SIZE	WEIGHT, LB/FT.	DEPTH SET (MD)	MOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
20"	106.5	1530	26"	1680 sks LT & 850 sks G	0
5/8" - 13 3/8"	88.68	5860	17 1/2"	1800 sks LT & 1300 sks G	0
7" - 7 5/8"	39.35.32	12,300	8 3/4"	220 sks C1 'G'	0

## 29. LINER RECORD

SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT	SCREEN (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)
N/A					2 7/8	11,680'	11,449'

## 30. TUBING RECORD

## 31. PERFORATION RECORD (Interval, size and number)

11,782' - 11,872', .33", 90 holes  
11,960' - 12,050', .33", 90 holes  
12,066' - 12,156', .33", 90 holes

## 32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL (MD) AMOUNT AND KIND OF MATERIAL USED  
11,782' - 11,872' 808 Bbls 15% HCL

## 33. PRODUCTION

DATE FIRST PRODUCTION PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump) WELL STATUS (Producing or Shut-in)  
Shut In

DATE OF TEST	HOURS TESTED	CHOKE SIZE	PROD. FOR TEST PERIOD	OIL—BBL	GAS—MCF	WATER—BBL	GAS-OIL RATIO
1/25/97	39	25/64	→	78.65	8628	374	9115
FLOW, TUBING PRESS.	CASING PRESSURE	CALCULATED 24-HOUR RATE	OIL—BBL	GAS—MCF	WATER—BBL	OIL GRAVITY-AP (CORR.)	
1575	550	→	48.40	5310	264		

## 34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.)

## TEST WITNESSED BY

## 35. LIST OF ATTACHMENTS

Test Information

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records

SIGNED

James Oursland

TITLE

Engineering Manager

DATE 3/06/97

See Spaces for Additional Data on Reverse Side

## INSTRUCTIONS

This form should be completed in compliance with the Utah Oil and Gas Conservation General Rules. If not filed prior to this time, all logs, tests, and directional surveys as required by Utah Rules should be attached and submitted with this report.

ITEM 18: Indicate which elevation is used as reference for depth measurements given in other spaces on this form and on any attachments.

ITEMS 22 and 24: If this well is completed for separate production from more than one interval zone (multiple completion), so state in item 22, and in item 24 show the producing interval, or intervals, top(s), bottom(s) and name(s) for only the interval reported in item 33. Submit a separate report (page) on this form, adequately identified, for each additional interval to be separately produced, showing the additional data pertinent to such interval.

ITEM 29: "Sacks Cement": Attached supplemental records for this well should show the details of any multiple stage cementing and the location of the cementing tool.

ITEM 33: Submit a separate completion report on this form for each interval to be separately produced (see instruction for items 22 and 24 above).

37. SUMMARY OF POROUS ZONES: Show all important zones of porosity and contents thereof; cored intervals; and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures, and recoveries.				38. GEOLOGIC MARKERS		
Formation	Top	Bottom	Description, contents, etc.	Name	Top	
					Meas. Depth	True Vert. Depth
Phosphoria	11,782'	12,300'	Gas Productive	Twin Creek Ls.	5784	5783
				Nugget Ss.	7342	7334
				Ankareh Red Beds	8416	8397
				Thaynes Ls.	9486	9446
				Woodside Red Beds	10844	10814
				Dinwoody Fm.	11552	11517
				Phosphoria	11782	11745

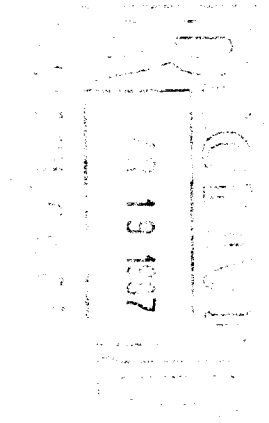
# FieldNotes



Job Number: ANSCH1.FLD  
Customer: Anschutz Land & Livestock  
Wellname:  
Well Location: 4-30  
Formation:

Supervisors D. Garnier  
Customer Rep: D. Wickersham  
Start Date: 97/01/25  
Start Time: 15:00 hrs  
Test Unit: TU#12  
Operation: Clean Up

Remarks: Fluid measured through turbine meters  
Gas properties based on January 27, 1997 gas samples.



FINAL Copies  
Edited At  
Norward Head Office

FieldNotes

Job Number: ANSCH1.FLD  
Customer: Anschutz Land & Livestock  
Wellname:  
Well Location: 4-30  
Formation:



Gas Meter 1

Meter Type: Orifice  
Meter Run Size: 3.8600 in  
Previous Gas Production: 0.000 MMCF  
Tap Type: Flange  
Tap Location: Downstream

Gauge to Absolute Adjustment: 11.0

Gas Gravity: 0.75 decimal  
CO2: 1.20 %  
H2S: 17.04 %  
N2: 1.92 %  
Critical Temperature: 423.4 R  
Critical Pressure: 780.6 psi  
Condensate: No

Water Meter 1

Meter Type:  
Measurement Type: Produced Volume  
Previous Water Production: 0.000 bbl

Condensate Meter 1

Meter Type:  
Measurement Type: Produced Volume  
Previous Condensate Production: 0.000 bbl

FieldNotes

Job Number: ANSCH1.FLD  
Customer: Anschutz Land & Livestock  
Wellname:  
Well Location: 4-30  
Formation:



Row	Date	Time	C Time	Pt	Pc	WHT	Orif	Static	Diff	Temp	Gas Rate	Cum Gas	H2O Gain	H2O Rate	Cum H2O	WGR	Cond Gain	Cond Rate	Cum Cond	CGR	pH	Salinity	Csg13 3/8-5 7/8
	yy/mm/dd	clock	hr	psig	psig	F	in	psig	in of H2O	F	MMCF/d	MMCF	bbl	bbl/d	bbl	bbl/mmcft	bbl	bbl/d	bbl	bbl/mmcft		ppm	psi
1	1997/01/25	15:00:00	0.00	3550	400	0.0	0.000	0	0.0	0.0	0.000	0.000	0.000		0.000		0.000		0.000				
2		15:00:00	0.00	910 bbls of fluid to recover.																			
3		15:07:00	0.12	Open well to flow through 30/64 choke.																			
4		15:20:00	0.33	Shut in well to drop perf balls. 1800psi on tubing.																			
5		16:00:00	1.00	2550	400																		
6		16:05:00	1.08	Open well to flow on a 25/64 choke through test equipment.																			
7		16:15:00	1.25	Burnable gas to surface.																			
8		16:30:00	1.50	1970	350																		
9		17:00:00	2.00	1500	500	64.0	2.000	190	36.0	120.0	1.919	0.160	4.300	51.600	4.300	26.743	0.000	0.000	0.000	0.000			
10		17:30:00	2.50	1100	700	106.0	2.750	160	12.0	120.0	2.149	0.202	25.100	1204.800	29.400	557.556	0.000	0.000	0.000	0.000			
11		18:00:00	3.00	1100	700	67.0	2.750	120	12.0	118.0	1.879	0.244	16.000	768.000	45.400	406.459	0.000	0.000	0.000	0.000	2.0		
12		18:30:00	3.50	1200	800	69.0	2.750	120	18.0	108.0	2.323	0.288											
13		19:00:00	4.00	1500	950	66.0	2.750	130	21.0	106.0	2.610	0.339	54.200	1300.800	99.600	495.745	0.000	0.000	0.000	0.000			
14		19:30:00	4.50	1500	1000	70.0	2.750	170	28.0	104.0	3.432	0.402											
15		19:30:00	4.50	Trace of condensate in separator. Too small to measure.																			
16		20:00:00	5.00	1400	1050	74.0	2.750	170	35.0	104.0	3.837	0.478	54.700	1312.800	154.300	340.304	0.000	0.000	0.000	0.000	4.0		
17		20:30:00	5.50	1500	1100	74.0	2.750	190	35.0	102.0	4.058	0.560											
18		21:00:00	6.00	1500	1150	74.0	2.750	200	36.0	102.0	4.220	0.647	36.800	883.200	191.100	208.158	0.100	2.400	0.100	0.566	5.0		
19		21:00:00	6.00	Bleed off casing pressure																			
20		21:30:00	6.50	1525	1010	72.0																	
21		22:00:00	7.00	1600		71.0	2.750	205	41.0	96.0	4.586	0.830	29.600	710.400	220.700	154.059	0.250	6.000	0.350	1.301			
22		22:30:00	7.50	1590	0	62.0																	
23		23:00:00	8.00	1625	150	65.0	2.750	255	43.0	101.0	5.208	1.034	21.600	518.400	242.300	99.002	0.700	16.800	1.050	3.208			
24		23:30:00	8.50	1630	150	64.0																	
25	1997/01/26	00:00:00	9.00	1630	175	66.0	2.750	160	68.0	100.0	5.217	1.251	12.900	309.600	255.200	59.020	1.900	45.600	2.950	8.693	5.0		
26		00:30:00	9.50	1650	180	67.0																	
27		01:00:00	10.00	1650	200	68.0	2.750	160	74.0	100.0	5.443	1.473	11.000	264.000	266.200	48.238	0.900	21.600	3.850	3.947	4.0		
28		01:30:00	10.50	1625	250	70.0																	
29		02:00:00	11.00	1625	250	72.0	2.750	165	77.0	100.0	5.635	1.704	9.900	237.600	276.100	41.932	1.900	45.600	5.750	8.048	4.0		
30		02:30:00	11.50	1625	255	73.0																	
31		03:00:00	12.00	1630	270	72.0	2.750	160	77.0	102.0	5.542	1.937	7.400	177.600	283.500	31.873	2.600	62.400	8.350	11.199	4.0		
32		03:30:00	12.50	1620	275	73.0																	
33		04:00:00	13.00	1620	300	72.0	2.750	160	77.0	102.0	5.542	2.168	7.100	170.400	290.600	30.581	2.600	62.400	10.950	11.199	5.0		
34		04:30:00	13.50	1625	300	72.0																	
35		05:00:00	14.00	1625	300	72.0	2.750	160	77.0	102.0	5.542	2.399	6.500	156.000	297.100	27.996	2.700	64.800	13.650	11.629	5.0		
36		05:30:00	14.50	1625	300	72.0																	
37		06:00:00	15.00	1625	300	72.0	2.750	165	80.0	105.0	5.717	2.633	6.000	144.000	303.100	25.053	2.600	62.400	16.250	10.856	5.0		
38		06:30:00	15.50	1600	310	72.0																	
39		07:00:00	16.00	1620	350	72.0	2.750	160	81.0	104.0	5.673	2.871	4.500	108.000	307.600	18.933	2.900	69.600	19.150	12.201	5.0		
40		07:30:00	16.50	1620	350	72.0																	
41		08:00:00	17.00	1625	350	72.0	2.750	170	80.0	105.0	5.799	3.110	4.900	117.600	312.500	20.168	2.700	64.800	21.850	11.113	5.0		
42		08:30:00	17.50	1625	375	74.0																	
43		09:00:00	18.00	1625	190	74.0	2.750	170	83.0	106.0	5.902	3.353	4.300	103.200	316.800	17.392	2.400	57.600	24.250	9.707	5.0		
44		09:01:00	18.02	Shut in well. Attempt to drop perf balls.																			
45		09:15:00	18.25	2100	380		0.000	0	0.0	0.0	0.000	3.353	0.000	0.000	316.800		0.000	0.000	24.250				
46		09:30:00	18.50	2200	340																		
47		10:00:00	19.00	2340	300			0	0.0	0.0	0.000	3.353	0.000	0.000	316.800		0.000	0.000	24.250				
48		10:00:00	19.00	Open well on a 25/64 choke through test equipment.																			
49		10:00:00	19.00	Blow down 13 3/8 & 7 5/8 through 15/64 choke. Opening pressure = 970psi																			
50		10:30:00	19.50	1650	350																		900.0
51		11:00:00	20.00	1790	380	74.0	2.750	205	97.0	85.0	7.140	3.651	3.800	91.200	320.600	12.703	3.300	79.200	27.550	11.032	5.0		900.0
52		11:30:00	20.50	1725	425	75.0																	900.0
53		12:00:00	21.00	1700	430	76.0	2.750	180	84.0	91.0	6.195	3.929	2.500	60.000	323.100	9.632	3.100	74.400	30.650	11.944	5.0		850.0
54		12:30:00	21.50	1700	450	76.0																	
55		13:00:00	22.00	1700	465	74.0	2.750	175	83.0	94.0	6.056	4.184	4.400	105.600	327.500	17.342	2.900	69.600	33.550	11.430	5.0		850.0
56		13:30:00	22.50	1680	470	75.0																	
57		14:00:00	23.00	1650	480	76.0	2.750	180	84.0	98.0	6.152	4.438	4.200	100.800	331.700	16.296	2.800	67.200	36.350	10.864	5.0		825.0
58		14:30:00	23.50	1625	495	76.0																	700.0
59		15:00:00	24.00	1630	510	76.0	2.750	175	84.0	102.0	6.045	4.692	4.100	98.400	335.800	16.191	2.900	69.600	39.250	11.452	5.0		550.0
60		15:30:00	24.50	1650	550	76.0																	450.0
61		16:00:00	25.00	1600	580	76.0	2.750	180	85.0	102.0	6.164	4.947	3.500	84.000	339.300	13.553	2.600	62.400	41.850	10.068	5.0	127272.0	300.0
62		16:30:00	25.50	1615	610	76.0																	190.0
63		17:00:00	26.00	1600	660	76.0	2.750	18	85.0	107.0	2.386	5.125	3.800	91.200	343.100	38.016	2.900	69.600	44.750	29.013	5.0		30.0

FieldNotes

Job Number: ANSCH1.FLD  
Customer: Anschutz Land & Livestock  
Wellname:  
Well Location: 4-30  
Formation:



Row	Date	Time	C Time	Pt	Pc	WHT	Orif	Static	Diff	Temp	Gas Rate	Cum Gas	H2O Gain	H2O Rate	Cum H2O	WGR	Cond Gain	Cond Rate	Cum Cond	CGR	pH	Salinity	Csg13 3/8-5 7/8
	yy/mm/dd	clock	hr	psig	psig	F	in	psig	in of H2O	F	MMCF/d	MMCF	bbl	bbl/d	bbl	bbl/mmcft	bbl	bbl/d	bbl	bbl/mmcft		ppm	psi
64	1997/01/26	17:30:00	26.50	1625	680	76.0	2.750																
65		18:00:00	27.00	1610	690	76.0	2.750	175	86.0	104.0	6.104	5.302	2.500	60.000	345.600	9.776	2.200	52.800	46.950	8.603	5.0		0.0
66		18:30:00	27.50	1600	695	76.0																	
67		19:00:00	28.00	1625	660	76.0	2.750	180	86.0	106.0	6.176	5.558	2.700	64.800	348.300	10.435	2.700	64.800	49.650	10.435	5.0		0.0
68		19:00:00	28.00	Shut in casing and monitor pressure.																			
69		19:30:00	28.50	1615	660	76.0																	
70		20:00:00	29.00	1615	660	76.0	2.750	180	86.0	106.0	6.176	5.815	2.700	64.800	351.000	10.435	2.600	62.400	52.250	10.049	6.0	127272.0	100.0
71		20:30:00	29.50	1615	615	74.0																	
72		21:00:00	30.00	1625	615	74.0	2.750	180	86.0	106.0	6.176	6.072	2.700	64.800	353.700	10.435	2.500	60.000	54.750	9.662	6.0		100.0
73		21:30:00	30.50	1620	610	72.0																	
74		21:30:00	30.50	Install surface casing gauge. Opening pressure = 10 psi.																			
75		22:00:00	31.00	1620	615	73.0	2.750	180	86.0	103.0	6.194	6.330	2.400	57.600	356.100	9.249	2.000	48.000	56.750	7.707	6.0	128484.0	100.0
76		22:30:00	31.50	1620	585	73.0																	
77		23:00:00	32.00	1630	575	74.0	2.750	180	85.0	105.0	6.146	6.587	2.400	57.600	358.500	9.321	2.600	62.400	59.350	10.098	6.0	128484.0	105.0
78		23:30:00	32.50	1600	575	74.0																	
79	1997/01/27	00:00:00	33.00	1585	570	74.0	2.750	180	85.0	106.0	6.140	6.843	2.100	50.400	360.600	8.164	2.300	55.200	61.650	8.942	6.0	127878.0	115.0
80		00:30:00	33.50	1575	565	76.0																	
81		01:00:00	34.00	1585	565	73.0	2.750	180	85.0	106.0	6.140	7.099	2.300	55.200	362.900	8.942	2.300	55.200	63.950	8.942	6.0	128484.0	125.0
82		01:30:00	34.50	1575	560	76.0																	
83		02:00:00	35.00	1580	560	76.0	2.750	180	85.0	106.0	6.140	7.355	1.900	45.600	364.800	7.387	2.100	50.400	66.050	8.164	6.5	128484.0	130.0
84		02:00:00	35.00	Surface casing pressure = 10 psi.																			
85		02:30:00	35.50	1575	560	74.0																	
86		03:00:00	36.00	1575	560	74.0	2.750	180	85.0	110.0	6.116	7.610	2.100	50.400	366.900	8.196	2.300	55.200	68.350	8.976	6.5	128484.0	130.0
87		03:30:00	36.50	1575	555	74.0																	
88		04:00:00	37.00	1575	555	75.0	2.750	180	85.0	113.0	6.098	7.864	1.800	43.200	368.700	7.045	2.600	62.400	70.950	10.177	6.5	128484.0	135.0
89		04:30:00	37.50	1575	555	74.0																	
90		05:00:00	38.00	1575	555	74.0	2.750	180	85.0	111.0	6.110	8.119	1.900	45.600	370.600	7.422	2.600	62.400	73.550	10.157	6.5	128484.0	135.0
91		05:30:00	38.50	1575	550	73.0																	
92		06:00:00	39.00	1575	550	74.0	2.750	180	85.0	111.0	6.110	8.373	2.000	48.000	372.600	7.813	2.600	62.400	76.150	10.157	6.5	128484.0	135.0
93		06:00:00	39.00	Surface casing pressure = 10 psi.																			
94		06:30:00	39.50	1575	550	74.0																	
95		07:00:00	40.00	1575	550	74.0	2.750	180	85.0	108.0	6.128	8.628	1.700	40.800	374.300	6.622	2.500	60.000	78.650	9.738	6.5	128484.0	140.0
96		07:00:00	40.00	Samples taken. Sent to W.E.S. in Evanston																			
97		07:30:00	40.50	1575	550	74.0																	
98		07:40:00	40.67	1575	550	74.0		0	0.0	0.0	0.000	8.628	0.000	0.000	374.300		0.000	0.000	78.650				
99		07:40:00	40.67	Shut in well. End of Clean Up.																			
100			40.67																				
101			40.67																				
102			40.67																				
103			40.67																				
104			40.67																				
105			40.67																				
106			40.67																				
107			40.67																				
108			40.67																				
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123			40.67																				
124			40.67																				
125			40.67																				
126			40.67																				



STATE OF UTAH  
DIVISION OF OIL, GAS AND MINING

# SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, deepen existing wells, or to reenter plugged and abandoned wells.  
Use APPLICATION FOR PERMIT TO DRILL OR DEEPEN form for such proposals.

1. Type of Well: OIL ☐ GAS ☒ OTHER:

2. Name of Operator: The Anschutz Corporation

3. Address and Telephone Number: 555 17th Street, #2400, Denver, CO 80202

4. Location of Well: 533' FNL & 1702' FWL

CO. Sec., T., R., M.: NE, NW, Sec 30, T5N, R8E

5. Lease Designation and Serial Number:

6. If Indian, Allocated or Tribal Name:

7. Unit Agreement Name:

8. Well Name and Number

A.L. & L. #4-30

9. API Well Number:

43-043-30316

10. Field and Pool, or Well at  
Cave Creek

County: Summit

State: Utah

## 11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

### NOTICE OF INTENT (Submit in Duplicate)

- |  |   |
|--|---|
| <input checked="" type="checkbox"/> Abandon        | <input type="checkbox"/> New Construction     |
| <input type="checkbox"/> Repair Casing             | <input type="checkbox"/> Pull or Alter Casing |
| <input type="checkbox"/> Change of Plans           | <input type="checkbox"/> Recomplete           |
| <input type="checkbox"/> Convert to Injection      | <input type="checkbox"/> Perforate            |
| <input type="checkbox"/> Fracture Treat or Acidize | <input type="checkbox"/> Vent or Flare        |
| <input type="checkbox"/> Multiple Completion       | <input type="checkbox"/> Water Shut-Off       |
| <input type="checkbox"/> Other                     |   |

Approximate date work will start 5-20-98

### SUBSEQUENT REPORT (Submit Original Form Only)

- |  |   |
|--|---|
| <input type="checkbox"/> Abandon                   | <input type="checkbox"/> New Construction     |
| <input type="checkbox"/> Repair Casing             | <input type="checkbox"/> Pull or Alter Casing |
| <input type="checkbox"/> Change of Plans           | <input type="checkbox"/> Perforate            |
| <input type="checkbox"/> Convert to Injection      | <input type="checkbox"/> Vent or Flare        |
| <input type="checkbox"/> Fracture Treat or Acidize | <input type="checkbox"/> Water Shut-Off       |
| <input type="checkbox"/> Other                     |   |

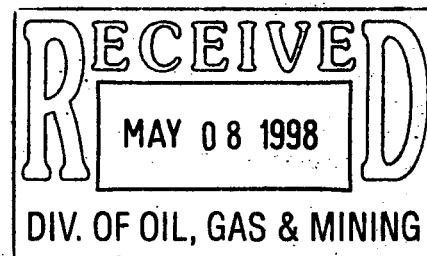
Date of work completion

Report results of Multiple Completions and Recompletions to different reservoirs on WELL COMPLETION OR RECOMPLETION REPORT AND LOG form.

\* Must be accompanied by a cement verification report.

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates. If well is directionally drilled, give subsurface locations as measured and true vertical depths for all markers and zones pertinent to this work.)

(See attached)



13.

Name & Signature: James Oursland / James Oursland

Title: Eng. Mgr.

Date: 5/7/98

APPROVED BY THE STATE  
OF UTAH DIVISION OF  
OIL, GAS, AND MINING

DATE: 5-18-98

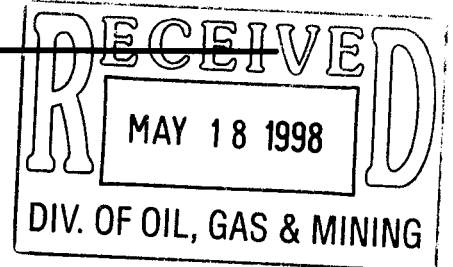
BY: [Signature]

(See Instructions on Reverse Side)



Revision #1

**A. L. & L. NO. 4-30**  
**CAVE CREEK PROSPECT, SUMMIT COUNTY, UTAH**



**OBJECTIVE**

Plug and abandon.

**WELL INFORMATION**

Well Location: NE, NW, Section 30, T5N, R8E  
Well Status: Shut In. Well SI 2/98 - loading up against line pressure.  
Surface Casing: 20", 106.5#, J55 set at 1530', cmt'd to surface w/ 2530 sks cement total  
Intermediate Casing: 13 3/8", 68#, L80 w/ 88# HCL80 thru salt (4403'-5860'), cmt'd to surface w/ 3100 sks total  
Production Casing: 7 5/8", 39#, L80 to 3280' and 7", 32#, L80 from 3280' to 12,300', Top of cement (1/1/97 Schlumberger CET) 11,270'  
Tubing String: 2 7/8", 7.7#, L80, Vam Ace  
Downhole Equip.: Baker Model D Packer set at 11,449', WL Re-entry Guide @ 11,680', Otis "RN" nipple @ 11,675', R nipple(s) @ 11,637', 11,402' & 3078' Camco Methanol Injection Mandrel @ 3,021', Camco SCSSV @ 154'  
Perforations: 11,782'-12,156' (Phosphoria)  
Drillers TD: 12,300'

**PROCEDURE**

1. Make proper notifications. Wasatche Gathering System (307)789-1573 and State of Utah, Division of Oil, Gas and Mining (801)538-5334 to be given 24 hour notice prior to commencing plugging activities. Safety engineers to be on location during plugging operations.
2. Remove production equipment and fence as needed. Install/test anchors.
3. RU slickline unit w/ sour service lubricator. Test lubricator to 5000 psi. RIH with pump through plug and set in RN nipple at 11,675'. Bleed off pressure to ensure plug is holding. RD and release slickline.
4. MIRU workover rig w/sub, flat tank, pump, catwalk, (2) sets of pipe racks. (Sub must be capable of standing over 17' BOP stack.) RU Norward 30' flare stack and 2 phase low pressure separator w/ sealed tank w/ ammonia scrubber. Set (2) 400 Bbl working tanks.
5. Load tubing with FW. Close SCSSV. Set BPV. ND wellhead. NU BOP's. BOP requirements and test procedure (per Bobby Cooper 4/29/98 Urroz WIU #1 Procedure): 7 1/16" 5M# CIW Type U BOP consisting of single gate w/ 2 7/8" pipe rams on top, (2) 2" 5M gate valves and (1) 2" 5M check valve on kill side and (2) 2" 5M# gate valves (1 man & 1 (HCR) on choke side. 7 1/16" Schafer Spherical. BOP to have been tested to 300 psi for 5 min and 5,000 psi for 10 min w/ test flange prior to NU, utilizing a 2 7/8" test mandrel. After NU BOP re-test top rams and shell test BOP system against lift sub. Test annular to 300 psi for 5 min and 3500 psi for 10 min.

6. Pull seal assembly from Model D packer. POH keeping hole loaded. LD tubing string. Send in tubing string and accessories for inspection. Tubing string to be cleaned and inspected as soon as possible.
7. RU wireline service w/ sour service line and lubricator. Test lubricator. RIH with gauge ring and junk basket to 11,400'. POH. RIH with cement retainer and set at 11,400'. POH. Load and test casing to 1500 psi. RD WL service.
8. PU cement retainer stinger and 2 7/8", 6.5# L80 workstring and sting into cement retainer. Test annulus to 1500 psi. Establish injection rate down tubing and squeeze Phosphoria perforations (11,782' -12,156') with 185 ft3 Class G cement. Sting out of retainer and spot 21 ft3 (100') Class G cement on top of retainer.
9. PU and reverse out. Circulate hole with abandonment fluid (8.7# w/ salt 1 ppb zinc chelate and 1.5% Champion R2383 corrosion inhibitor/O<sub>2</sub> scavenger /biocide. POH.
10. RU wireline. MU casing spear, spear 7 5/8" casing and put casing in tension for freepoint. RIH with freepoint and determine the production casing freepoint. POH with freepoint tool. Report results.

***IF DECISION IS MADE TO PULL FREE CASING PROCEED TO STEP 11, IF NOT PROCEED TO STEP A***

11. PU CIBP and RIH on workstring. Set at 8630'. PU and spot 41 ft3 cement on CIBP. POH.
12. RIH with jet cutter and cut casing at 100% free pipe depth. (Note: 9 PPG mud on backside of production casing when it was run.) POH with cutter. Circulate P&A fluid. Pull free casing.
13. RIH with workstring, spot balanced cement plugs across the following:

7" casing stub	200' plug	100 ft3 cement (min)
13 3/8" shoe	200' plug	134 ft3 cement (min)
3380' to 3180'	200' plug	168 ft3 cement (min)
300' to 100'	200' plug	168 ft3 cement (min)
14. ND BOP. NU blind flange on tubing head with 1/2" needle valve. RDMO workover rig.
15. Dig out cellar. Cut off all casing strings. RIH with 60' of 1" tubing . Cement casing and all annuli with 50' surface plug. Send wellhead equipment in to FMC for inspection.
16. Erect 4"x10' dry hole marker w/ at least 6' of marker above GL. Marker should have a 1/2" needle valve tapped into it so that it can be checked for pressure. Post the following information on marker:

**THE ANSCHUTZ CORPORATION**

**AL&L No. 4-30**

**NE, NW, Sec. 30, T5N, R8E, Summit County, Utah.**

***Date Plugged***

17. Clean and reclaim location.

A. (Note: Dependent on where the freepoint is located, one or more of the CIBP's listed in "Step B" may have to be set prior to performing "Step A".) RU wireline. RIH with 3 1/8" casing gun and perforate 2', 4 spf, at the 100% free pipe depth. POH with gun. PU cement retainer. RIH with retainer and set 100' above sqz perms. PU cement retainer stinger and workstring and sting into retainer. Test annulus to 1500 psi. Establish injection rate down tubing and squeeze perforations with sufficient cement to achieve 200' plug plus 20% excess on outside of pipe. Sting out of retainer and spot 100' cement on top of retainer. PU and reverse out. POH with workstring.

B. Set CIBP's and spot cement as follows:

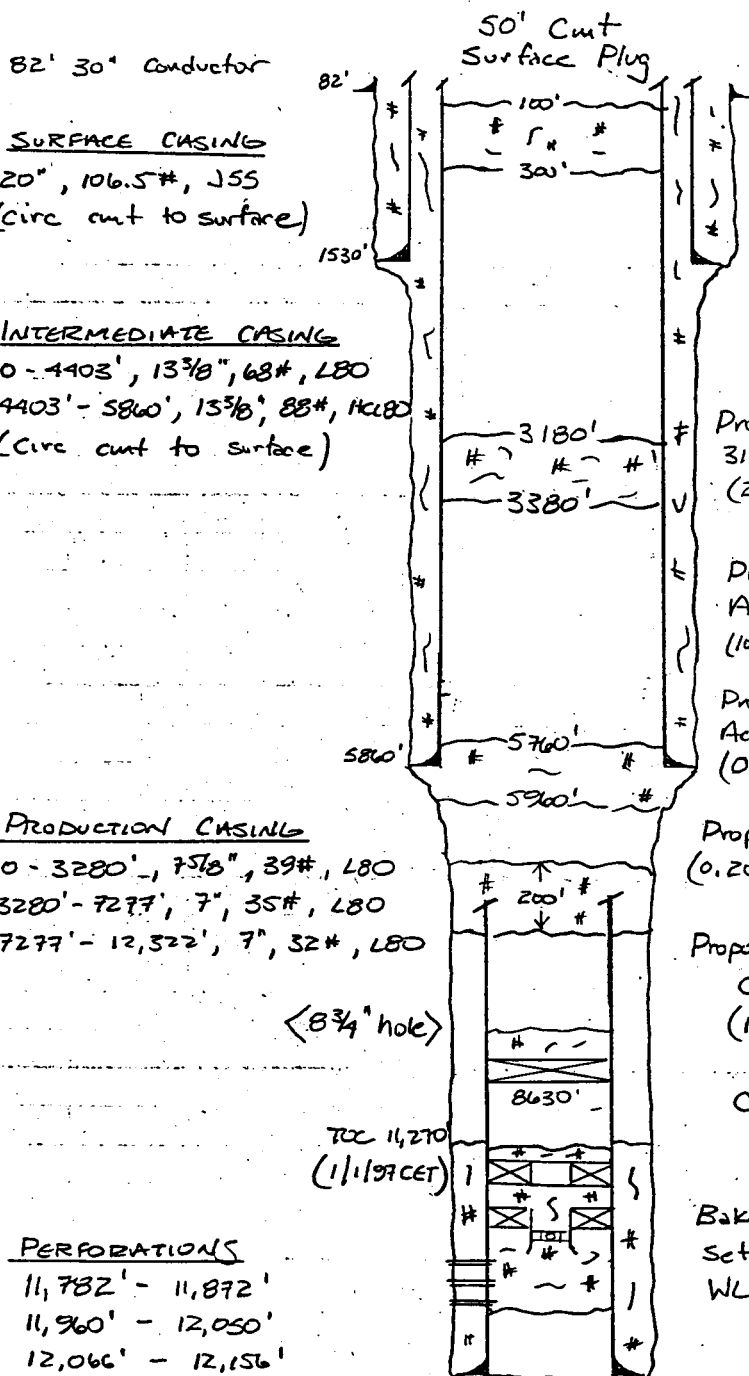
CIBP at 8630'	200' cap	41 ft <sup>3</sup> cement (min)
CIBP at 5860'	200' cap	40 ft <sup>3</sup> cement (min)
CIBP at 3270'	200' cap	48 ft <sup>3</sup> cement (min)
300' to 100'	200' plug	59 ft <sup>3</sup> cement (min)

**GO TO STEP 14 (ABOVE)**

Spud Date: 10/2/96  
 K.B. 7337'  
 G.L. 7314.4'

A.L. & L. No. 4-30  
 Cave Creek Field  
 Summit County, Utah

[PLUGGING DIAGRAM IF CASING IS PULLED]



Proposed 200' Balanced  
 Cmt Plug (100'-300')  
 $(200') \times (.8407 \text{ ft}^3/\text{ft})$   
 $\Rightarrow 168.1 \text{ ft}^3$

Proposed 200' Balanced Cmt Plug  
 3180'-3380'  
 $(200') \times (.8407 \text{ ft}^3/\text{ft}) \Rightarrow 168.1 \text{ ft}^3$

Proposed 200' Balanced Cmt Plug  
 Across 13 3/8" Csg Shoe  
 $(100') \times (.8407 \text{ ft}^3/\text{ft}) + (100') \times (.4167 \text{ ft}^3/\text{ft}) \times (1.2) \Rightarrow 134.1 \text{ ft}^3$

Proposed 200' Balanced Cmt Plug  
 Across 7" Casing Stub  
 $(0.4176 \text{ ft}^3/\text{ft} \times 200') \times (1.2) \Rightarrow 100.22 \text{ ft}^3$

Proposed CIBP @ 8630' capped w/ 200' cmt  
 $(0.2026 \text{ ft}^3/\text{ft} \times 8630' - 8430') \Rightarrow 40.5 \text{ ft}^3$

Proposed Cmt Ret @ 11,400'  
 Cmt Below Retainer  
 $(12,156' - 11,400') \times (.2026 \text{ ft}^3/\text{ft}) \times (1.2)$   
 $\Rightarrow 183.8 \text{ ft}^3$

Cmt Above Retainer  
 $(100') \times (.2026 \text{ ft}^3/\text{ft}) \Rightarrow 20.3 \text{ ft}^3$

Baker Mod D Production Per  
 Set @ 11,449'  
 WL Re-Entry Guide @ 11,600'

PERFORATIONS  
 11,782' - 11,872'  
 11,960' - 12,050'  
 12,066' - 12,156'

DTD 12,300'

JPO  
 5/98

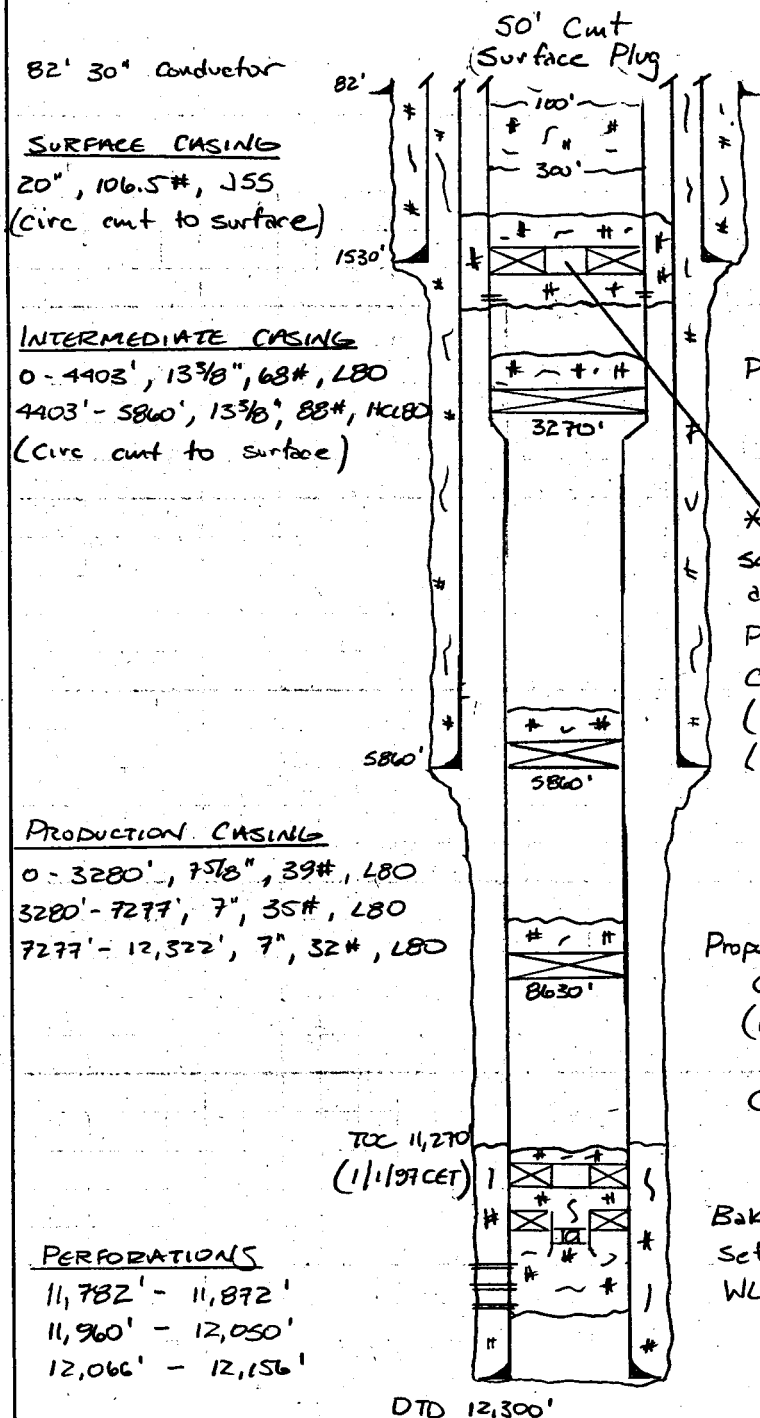
50 SHEETS  
 22-141 100 SHEETS  
 22-142 200 SHEETS  
 22-144



Spud Date: 10/2/96  
 K.B. 7337'  
 G.L. 7314.4'

A.L. & L. No 4-30  
 Cave Creek Field  
 Summit County, Utah

[PLUGGING DIAGRAM IF CASING IS NOT PULLED]



Proposed 200' Balanced  
 Cmt Plug (100'-300')  
 $(200')(.2934 \frac{ft^3}{ft}) \Rightarrow 58.7 ft^3$

Proposed CIBP @ 3270', capped  
 w/ 200' cement  
 $(.2394 \frac{ft^3}{ft})(3270'-3070') \Rightarrow 47.9 ft^3$

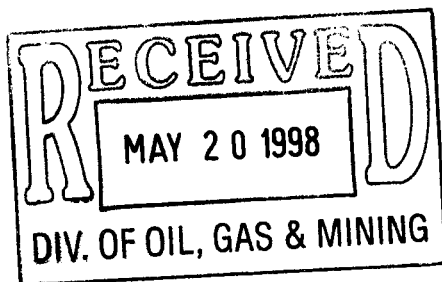
\* Proposed cmt retainer 100' above  
 sqz ports shot @ freepoint (100' cmt  
 above & below cmt ret. inside & out)

Proposed CIBP's @ 8630' & 5860'  
 Capped w/ 200' cement  
 $(0.1966 \frac{ft^3}{ft})(5860'-5660') \Rightarrow 39.3 ft^3$   
 $(0.2026 \frac{ft^3}{ft})(8630'-8430') \Rightarrow 40.5 ft^3$

Proposed Cmt Ret @ 11,400'  
 Cmt Below Retainer  
 $(12,156'-11,400')(.2026 \frac{ft^3}{ft})(1.2) \Rightarrow 183.8 ft^3$

Cmt Above Retainer  
 $(100')(.2026 \frac{ft^3}{ft}) \Rightarrow 20.3 ft^3$

Baker Mod D Production Per  
 Set @ 11,449'  
 WL Re-Entry Guide @ 11,680'



Revision #2

**A. L. & L. NO. 4-30**  
**CAVE CREEK PROSPECT, SUMMIT COUNTY, UTAH**

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**OBJECTIVE**

Plug and abandon.

**WELL INFORMATION**

Well Location: NE, NW, Section 30, T5N, R8E  
Well Status: Shut In. Well SI 2/98 - loading up against line pressure.  
Surface Casing: 20", 106.5#, J55 set at 1530', cmt'd to surface w/ 2530 sks cement total  
Intermediate Casing: 13 3/8", 68#, L80 w/ 88# HCL80 thru salt (4403'-5860'), cmt'd to surface w/ 3100 sks total  
Production Casing: 7 5/8", 39#, L80 to 3280' and 7", 32#, L80 from 3280' to 12,300', Top of cement (1/1/97 Schlumberger CET) 11,270'  
Tubing String: 2 7/8", 7.7#, L80, Vam Ace  
Downhole Equip.: Baker Model D Packer set at 11,449', WL Re-entry Guide @ 11,680', Otis "RN" nipple @ 11,675', R nipple(s) @ 11,637', 11,402' & 3078' Camco Methanol Injection Mandrel @ 3,021', Camco SCSSV @ 154'  
Perforations: 11,782'-12,156' (Phophoria)  
Drillers TD: 12,300'

**PROCEDURE**

1. Make proper notifications. Wasatche Gathering System (307)789-1573 and State of Utah, Division of Oil, Gas and Mining (801)538-5334 to be given 24 hour notice prior to commencing plugging activities. Safety engineers to be on location during plugging operations.
2. Remove production equipment and fence as needed. Install/test anchors.
3. RU slickline unit w/ sour service lubricator. Test lubricator to 5000 psi. RIH with pump through plug and set in RN nipple at 11,675'. Bleed off pressure to ensure plug is holding. RD and release slickline.
4. MIRU workover rig w/sub, flat tank, pump, catwalk, (2) sets of pipe racks. (Sub must be capable of standing over 17' BOP stack.) RU Norward 30' flare stack and 2 phase low pressure separator w/ sealed tank w/ ammonia scrubber. Set (2) 400 Bbl working tanks.
5. Load tubing with FW. Close SCSSV. Set BPV. ND wellhead. NU BOP's. BOP requirements and test procedure (per Bobby Cooper 4/29/98 Urroz WIU #1 Procedure): 7 1/16" 5M# CIW Type U BOP consisting of single gate w/ 2 7/8" pipe rams on top, (2) 2" 5M gate valves and (1) 2" 5M check valve on kill side and (2) 2" 5M# gate valves (1 man & 1 (HCR) on choke side. 7 1/16" Schafer Spherical. BOP to have been tested to 300 psi for 5 min and 5,000 psi for 10 min w/ test flange prior to NU, utilizing a 2 7/8" test mandrel. After NU BOP re-test top rams and shell test BOP system against lift sub. Test annular to 300 psi for 5 min and 3500 psi for 10 min.

6. Pull seal assembly from Model D packer. POH keeping hole loaded. LD tubing string. Send in tubing string and accessories for inspection. Tubing string to be cleaned and inspected as soon as possible.
7. RU wireline service w/ sour service line and lubricator. Test lubricator. RIH with gauge ring and junk basket to 11,400'. POH. RIH with cement retainer and set at 11,400'. POH. Load and test casing to 1500 psi. RD WL service.
8. PU cement retainer stinger and 2 7/8", 6.5# L80 workstring and sting into cement retainer. Test annulus to 1500 psi. Establish injection rate down tubing and squeeze Phosphoria perforations (11,782' -12,156') with 185 ft3 Class G cement. Sting out of retainer and spot 21 ft3 (100') Class G cement on top of retainer.
9. PU and reverse out. Circulate hole with abandonment fluid (8.7# w/ salt 1 ppb zinc chelate and 1.5% Champion R2383 corrosion inhibitor/O<sub>2</sub> scavenger /biocide. POH.
10. PU CIBP and RIH on workstring. Set at 8630'. PU and spot 41 ft3 cement on CIBP. POH.
11. RU wireline. RIH with 3 1/8" casing gun and perforate 2', 4 spf, from 5958'- 5960'. POH with gun. PU cement retainer. RIH with retainer and set 100' above sqz perfs. PU cement retainer stinger and workstring and sting into retainer. Test annulus to 1500 psi. Establish injection rate down tubing with returns to the surface via 7' x 13 3/8" annulus. RU cementers and pump 153 ft3 (min) cement below retainer. Sting out of retainer and spot 100', 20 ft3 (min) cement on top of retainer. PU and reverse out. POH with workstring.
12. Set CIBP's and spot cement as follows:
 

CIBP at 3270'	200' cap	48 ft3 cement (min)
300' to 100'	200' plug	59 ft3 cement (min)
13. ND BOP. NU blind flange on tubing head with 1/2" needle valve. RDMO workover rig.
14. Dig out cellar. Cut off all casing strings. RIH with 60' of 1" tubing. Cement casing and all annuli with 50' surface plug. Send wellhead equipment in to FMC for inspection.
15. Erect 4"x10' dry hole marker w/ at least 6' of marker above GL. Marker should have a 1/2" needle valve tapped into it so that it can be checked for pressure. Post the following information on marker:

**THE ANSCHUTZ CORPORATION****AL&L No. 4-30****NE, NW, Sec. 30, T5N, R8E, Summit County, Utah.*****Date Plugged***

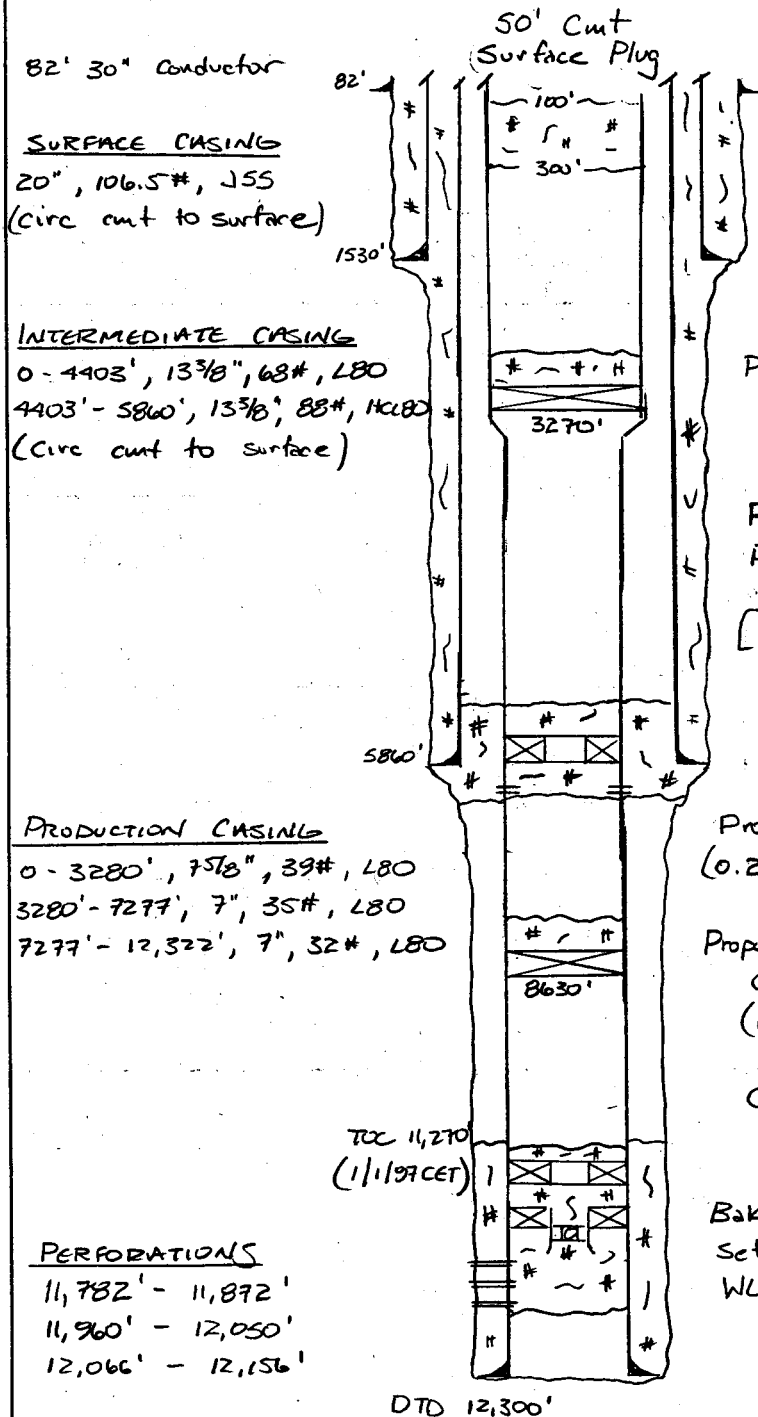
16. Clean and reclaim location.



Spud Date: 10/2/96  
 K.B. 7337'  
 G.L. 7314.4'

A.L. & L. No 4-30  
 Cave Creek Field  
 Summit County, Utah

22-141 50 SHEETS  
 22-142 100 SHEETS  
 22-144 200 SHEETS



Proposed 200' Balanced  
 Cmt Plug (100'-300')  
 $(200')(.2934 \text{ ft}^3/\text{ft})$   
 $\Rightarrow 58.7 \text{ ft}^3$

Proposed CIBP @ 3270', capped  
 w/ 200' cement  
 $(.2394 \text{ ft}^3/\text{ft})(3270'-3070') \Rightarrow 47.9 \text{ ft}^3$

Proposed cement retainer @ 5860'  
 Proposed sqz ports (5958'-5960')  
 cmt pumped below retainer  
 $[(5960'-5760')(.5390 \text{ ft}^3/\text{ft}) + (5960'-5860')(.1966 \text{ ft}^3/\text{ft})](1.2)$   
 $\Rightarrow 153 \text{ ft}^3$   
 cmt spotted above retainer  $\Rightarrow 19.7 \text{ ft}^3$

Proposed CIBP @ 8630', capped w/ 200' cmt  
 $(0.2026 \text{ ft}^3/\text{ft})(8630'-8430') \Rightarrow 40.5 \text{ ft}^3$

Proposed Cmt Ret @ 11,400'  
 Cmt Below Retainer  
 $(12,156'-11,400')(.2026 \text{ ft}^3/\text{ft})(1.2)$   
 $\Rightarrow 183.8 \text{ ft}^3$

Cmt Above Retainer  
 $(100')(.2026 \text{ ft}^3/\text{ft}) \Rightarrow 20.3 \text{ ft}^3$

Baker Mod D Production Per  
 Set @ 11,449'  
 WL Re-Entry Guide @ 11,680'

JPO  
 5/98



1221 LAMAR

SUITE 1100

HOUSTON, TEXAS 77010

713-651-0281

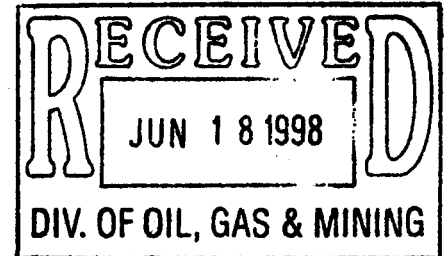
FAX 713-750-0257

June 17, 1998

State of Utah, Division of Oil, Gas & Mining  
1594 West North Temple, Suite 1210  
Salt Lake City, Utah 84114

Attn.: Mr. Bob Krueger

Reference: A.L. & L. 4-30, Cave Creek Field  
Summit County, Utah



Dear Mr. Krueger:

Enclosed is a Sundry Notice reporting the P&A operations which have taken place to date on the referenced well. Also reported, is The Anschutz Corporation's proposed procedure for setting surface plugs in this well to conclude P&A operations.

Please review this information and let me know if the proposed procedure is satisfactory.

If you have questions or need additional information I can be reached in our Houston Office at the letterhead telephone number.

Sincerely,  
The Anschutz Corporation

James Oursland  
Gulf Coast Engineering Mgr.

JPO:cavecrk\utah.doc  
Enclosure

STATE OF UTAH  
DIVISION OF OIL, GAS AND MINING

# SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, deepen existing wells, or to reenter plugged and abandoned wells.  
Use APPLICATION FOR PERMIT TO DRILL OR DEEPEN form for such proposals.

1. Type of Well: OIL ☐ GAS ☒ OTHER:

2. Name of Operator:

The Anschutz Corporation

3. Address and Telephone Number:

555 17th Street, #2400, Denver, CO 80202

4. Location of Well

Footages: 533' FNL & 1702' FWL

Co. Sec., T., R., M.: NE, NW, Sec 30, T5N, R8E

5. Lease Designation and Serial Number:

6. If Indian, Allocated or Tribal Name:

7. Unit Agreement Name:

8. Well Name and Number

A. L. & L. #4-30

9. API Well Number:

43-043-30316

10. Field and Pool, or Well in

Cave Creek

County: Summit

State: Utah

## 11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

### NOTICE OF INTENT (Submit in Duplicate)

- |  |   |
|--|---|
| <input type="checkbox"/> Abandon                   | <input type="checkbox"/> New Construction     |
| <input type="checkbox"/> Repair Casing             | <input type="checkbox"/> Pull or Alter Casing |
| <input type="checkbox"/> Change of Plans           | <input type="checkbox"/> Recomplete           |
| <input type="checkbox"/> Convert to Injection      | <input type="checkbox"/> Perforate            |
| <input type="checkbox"/> Fracture Treat or Acidize | <input type="checkbox"/> Vent or Flare        |
| <input type="checkbox"/> Multiple Completion       | <input type="checkbox"/> Water Shut-Off       |
| <input type="checkbox"/> Other _____               |   |

Approximate date work will start \_\_\_\_\_

### SUBSEQUENT REPORT (Submit Original Form Only)

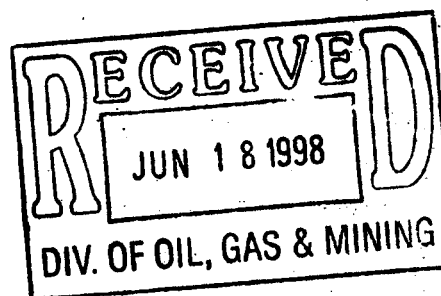
- |   |   |
|---|---|
| <input checked="" type="checkbox"/> Abandon         | <input type="checkbox"/> New Construction     |
| <input type="checkbox"/> Repair Casing              | <input type="checkbox"/> Pull or Alter Casing |
| <input checked="" type="checkbox"/> Change of Plans | <input type="checkbox"/> Perforate            |
| <input type="checkbox"/> Convert to Injection       | <input type="checkbox"/> Vent or Flare        |
| <input type="checkbox"/> Fracture Treat or Acidize  | <input type="checkbox"/> Water Shut-Off       |
| <input type="checkbox"/> Other _____                |   |

Date of work completion 6/4/98

Report results of Multiple Completions and Recompletions to different intervals on WELL COMPLETION OR RECOMPLETION REPORT AND LOG form.

\* Must be accompanied by a cement verification report.

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)



13.

Name & Signature

James Oursland

Title: Engineering Manager

Date: 6/14/98

(This space for State use only)

**A.L. L. 4-30**  
**Cave Creek Field**  
**Plugging Summary**

Date	Description	Type of Cement	# of sacks	Yield (ft3/sk)	Cmt Volume (ft3)	Comments
20-May	Set pump-thru plug in RN nipple @ 11,674'					
25-May	Called State of Utah re: BOP test					
28-May	Set EZSV Retainer @11,400'					
29-May	Sqz'd cmt below EZSV	CI G	166	1.15	190.90	
	Spotted cmt on top of EZSV	CI G	18	1.15	20.70	100' cmt on top of EZSV
30-May	CIBP set early at 3304'					RIH to set CIBP at 8630', CIBP set on the way in the hole. Wellsite consultant notified State of Utah, Jimmie Thompson and Dan Jarvis.
31-May	Performed sqz down 13 3/8" by 7 5/8" annulus	CI G	300	1.15	345.00	Pump rate 300 psi @ 4 BPM
2-Jun	Performed sqz down 13 3/8" by 7 5/8" annulus	CI G	300	1.15	345.00	Pump rate 800 psi @ 1 BPM
2-Jun	Spotted cmt on top of CIBP set @ 3304'	CI G	41	1.15	47.15	200' cement on top of CIBP
2-Jun	Set balanced plug in 7 5/8" casing	CI G	41	1.15	47.15	Balanced cmt plug 26' to 226'
2-Jun	Sqz down 13 3/8" by 7 5/8" annulus w/ add'l 150 sks	CI G	150	1	150.00	Pump rate 1000 psi @ 1 BPM
4-Jun	Pressured up on 13 3/8" by 7 5/8" annulus					Pumped 53 Bbls water into annulus before catching pressure. Pressured up to 1050psi after 61 Bbls, pressured up 1100 psi at 61.8 Bbls. Pressure bled from 1100 psi to 535 psi in 30 minutes.

Spud Date 10/2/96  
KB 7337'  
GL 7314.4'

A.L. & L. 4-30  
Cave Creek Field  
Summit County, Utah

82' 30" Conductor

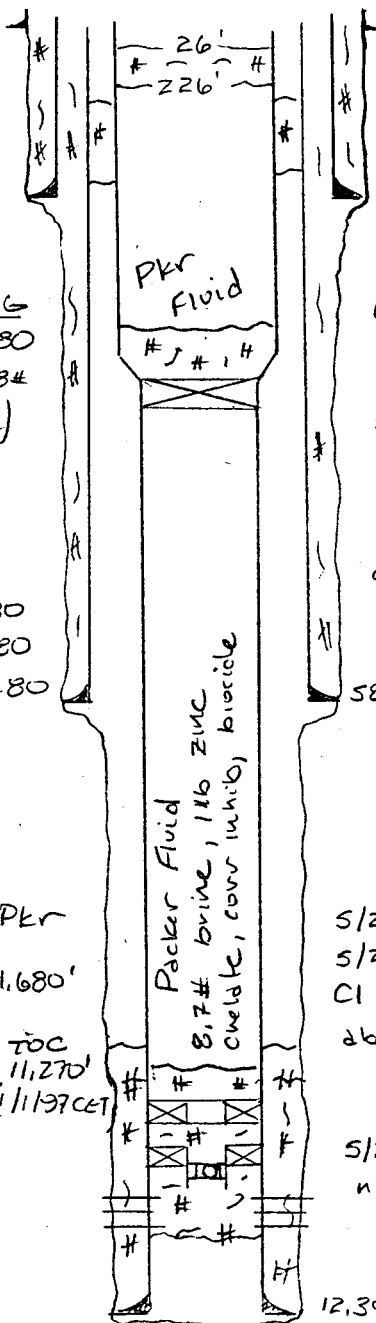
SURFACE CASING  
20", 106.5#, J55  
(circ cut surface)

INTERMEDIATE CASING  
0-4403', 13<sup>3/8</sup>", 68#, L80  
4403'-5860', 13<sup>3/8</sup>", 88#  
(circ cut to surface)

PRODUCTION CASING  
0-3280', 7<sup>5/8</sup>", 39#, L80  
3280'-7277', 7", 35#, L80  
7277'-12,322', 7", 32#, L80

Baker Mod D Prod PKR  
set @ 11,449'  
WL Re-entry Guide 11,680'

PERFORATIONS  
11,782' - 11,872'  
11,960' - 12,050'  
12,066' - 12,156'



6/2 Spotted 200' (41 sks) Class G  
Balanced Plug

6/2 Capped CIBP @ 3304' w/ 200'  
(41 sks) C1'6'

5/30/98 7" CIBP set @ 3304'

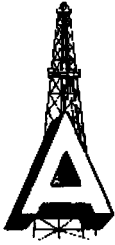
5/31/98 13<sup>3/8</sup>" x 7<sup>5/8</sup>"/7" Annulus  
squeezed w/ 300 sks C1'6' (1.15 H<sup>3</sup>/sk)

6/2/98 13<sup>3/8</sup>" x 7<sup>5/8</sup>"/7" Annulus  
squeezed w/ 300 sks C1'6' (1.15 H<sup>3</sup>/sk)  
and followed up w/ add'l 150 sks C1G

5/28/98 Set Halco EZSV @ 11,400'  
5/29/98 Pumped 166 sks (191 H<sup>3</sup>)  
C1'6' below retainer, 18 sks (20.7 H<sup>3</sup>)  
above retainer

5/20 Set pump-thru plug in RN  
nipple at 11,674'

JPO  
6/98



**A. L. & L. NO. 4-30**  
**CAVE CREEK PROSPECT, SUMMIT COUNTY, UTAH**

---

**OBJECTIVE**

Set surface cement plugs and abandon.

**WELL INFORMATION**

Well Location: NE, NW, Section 30, T5N, R8E  
Well Status: Shut In. Well SI 2/98 - loading up against line pressure.  
Surface Casing: 20", 106.5#, J55 set at 1530', cmt'd to surface w/ 2530 sks cement total  
Intermediate Casing: 13 3/8", 68#, L80 w/ 88# HCL80 thru salt (4403'-5860'), cmt'd to surface w/ 3100 sks total  
Production Casing: 7 5/8", 39#, L80 to 3280' and 7", 32#, L80 from 3280' to 12,300', Top of cement (1/1/97 Schlumberger CET) 11,270'  
Tubing String: 2 7/8", 7.7#, L80, Vam Ace  
Downhole Equip.: Baker Model D Packer set at 11,449', WL Re-entry Guide @ 11,680', Otis "RN" nipple @ 11,675', R nipple(s) @ 11,637', 11,402' & 3078'  
Camco Methanol Injection Mandrel @ 3,021', Camco SCSSV @ 154'  
Perforations: 11,782'-12,156' (Phosphoria)  
Drillers TD: 12,300'

**PROCEDURE**

(Note: See attached plugging summary and well sketch for details of work performed to date.)

1. Dig out cellar. Cut off all casing strings. Send wellhead equipment in to FMC for inspection.
2. RU DS. RIH (7 5/8" by 13 3/8") annulus with 1" tubing to cement top or 500'. Circulate bottoms up. Circulate annulus full of cement (262 ft3 @ 500'). POH with 1" tubing. Run 1" tubing in 7 5/8" casing and cement casing with 50' surface plug (+/- 15 ft3).  
*Repeat as necessary to ensure cement @ surface.*  
Erect 4"x10' dry hole marker w/ at least 6' of marker above GL. Marker should have a 1/2" needle valve tapped into it so that it can be checked for pressure. Post the following information on marker:

**THE ANSCHUTZ CORPORATION**

**AL&L No. 4-30**

**NE, NW, Sec. 30, T5N, R8E, Summit County, Utah.**

***Date Plugged***

4. Clean and reclaim location.

*Verbal  
To O. Jim  
6/18/98  
RJK*

# SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, deepen existing wells, or to reenter plugged and abandoned wells.  
Use APPLICATION FOR PERMIT TO DRILL OR DEEPEN form for such proposals.

1. Type of Well: OIL ☐ GAS ☐ OTHER: Plugged & Abandoned

2. Name of Operator:

THE ANSCHUTZ CORPORATION

3. Address and Telephone Number:

555 17th St., Ste. 2400, Denver, CO 80202 (303) 298-1000

4. Location of Well 533' FNL and 1702' FWL

Footages:

OO, Sec., T., R., M.: NENW Section 30, T5N, R8E

5. Lease Designation and Serial Number:

6. If Indian, Allottee or Tribe Name:

7. Unit Agreement Name:

8. Well Name and Number:

A.L. & L. #4-30 (Cave Crk

9. API Well Number:

43-043-30316

10. Field and Pool, or Wildcat:

Cave Creek

County: Summit

State: Utah

## 11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

### NOTICE OF INTENT (Submit in Duplicate)

- |  |   |
|--|---|
| <input type="checkbox"/> Abandon                   | <input type="checkbox"/> New Construction     |
| <input type="checkbox"/> Repair Casing             | <input type="checkbox"/> Pull or Alter Casing |
| <input type="checkbox"/> Change of Plans           | <input type="checkbox"/> Recomplete           |
| <input type="checkbox"/> Convert to Injection      | <input type="checkbox"/> Reperforate          |
| <input type="checkbox"/> Fracture Treat or Acidize | <input type="checkbox"/> Vent or Flare        |
| <input type="checkbox"/> Multiple Completion       | <input type="checkbox"/> Water Shut-Off       |
| <input type="checkbox"/> Other _____               |   |

Approximate date work will start \_\_\_\_\_

### SUBSEQUENT REPORT (Submit Original Form Only)

- |  |   |
|--|---|
| <input type="checkbox"/> Abandon                               | <input type="checkbox"/> New Construction     |
| <input type="checkbox"/> Repair Casing                         | <input type="checkbox"/> Pull or Alter Casing |
| <input type="checkbox"/> Change of Plans                       | <input type="checkbox"/> Reperforate          |
| <input type="checkbox"/> Convert to Injection                  | <input type="checkbox"/> Vent or Flare        |
| <input type="checkbox"/> Fracture Treat or Acidize             | <input type="checkbox"/> Water Shut-Off       |
| <input checked="" type="checkbox"/> Other LOCATION RECLAMATION |   |

Date of work completion 9/25/98

Report results of Multiple Completions and Recompletions to different reservoirs on WELL COMPLETION OR RECOMPLETION REPORT AND LOG form.

\* Must be accompanied by a cement verification report.

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)

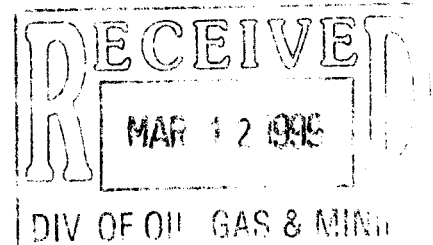
Evaporated reserve pit. Remainder of mud mixed in with trackhoe with at least 4' of soil placed on top. Seeded location w/200 lbs. Seed. Seed mixture per Castle Rock Land & Livestock. Building (brown) and antenna left on location per agreement with UPR and landowner, Dave Allen. Total reclamation days = 10.

13.

Name & Signature: Steve Hall

Title: Engineering Manager Date: 3/9/99

(This space for State use only)

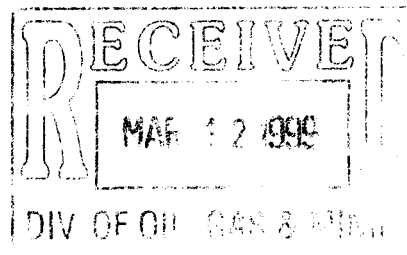




EXPLORATION CORPORATION

555 SEVENTEENTH STREET • SUITE 2400 • DENVER, COLORADO 80202 • 303-298-1000 • FAX 303-298-8881

March 9, 1999



State of Utah  
Dept. of Natural Resources  
Division of Oil, Gas and Mining  
1594 W. North Temple, Suite 1210  
Salt Lake City, UT 84114-5801  
Attn: Mr. Bob Krueger

RE: A.L. & L. #4-30 (Cave Creek)  
Summit County, Utah  
API No. 43-043-30316  
Sundry Notice (Form 4) – Subsequent Report Location Reclamation

Dear Mr. Krueger:

Enclosed is the referenced notice. Please accept our apologies for the delay in submitting the report to your office.

Feel free to contact me at (303) 299-1344 with any questions and thank you for your cooperation in this matter.

ANSCHUTZ EXPLORATION CORPORATION

Susan M. Balano  
Operations Technician

SMB  
Enclosures



STATE OF UTAH  
DIVISION OF OIL, GAS AND MINING

# SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, deepen existing wells, or to reenter plugged and abandoned wells.  
Use APPLICATION FOR PERMIT TO DRILL OR DEEPEN form for such proposals.

1. Type of Well: OIL ☐ GAS ☒ OTHER:

2. Name of Operator:

Anschutz Exploration Corporation

3. Address and Telephone Number:

555 17th Street, Suite 2400 Denver, CO 80241 (303)298-1000

4. Location of Well

Footages: 533' FNL & 1802' FWL

CO. Sec., T., R., M.: Ne Nw, Sec 30, T 5 N., R. 8 E

5. Lease Designation and Serial Number:

6. If Indian, Allotment or Tribal Name:

NA

7. Unit Agreement Name:

NA

8. Well Name and Number

AL&L 4-30

9. API Well Number:

43-043-30316

10. Field and Pool, or Wildcat

Wildcat

County: Summit

State: Utah

## 11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

### NOTICE OF INTENT (Submit in Duplicate)

- |  |   |
|--|---|
| <input checked="" type="checkbox"/> Abandon        | <input type="checkbox"/> New Construction     |
| <input type="checkbox"/> Repair Casing             | <input type="checkbox"/> Pull or Alter Casing |
| <input type="checkbox"/> Change of Plans           | <input type="checkbox"/> Recomplete           |
| <input type="checkbox"/> Convert to Injection      | <input type="checkbox"/> Perforate            |
| <input type="checkbox"/> Fracture Treat or Acidize | <input type="checkbox"/> Vent or Flare        |
| <input type="checkbox"/> Multiple Completion       | <input type="checkbox"/> Water Shut-Off       |
| <input type="checkbox"/> Other                     |   |

Approximate date work will start

### SUBSEQUENT REPORT (Submit Original Form Only)

- |  |   |
|--|---|
| <input checked="" type="checkbox"/> Abandon        | <input type="checkbox"/> New Construction     |
| <input type="checkbox"/> Repair Casing             | <input type="checkbox"/> Pull or Alter Casing |
| <input type="checkbox"/> Change of Plans           | <input type="checkbox"/> Perforate            |
| <input type="checkbox"/> Convert to Injection      | <input type="checkbox"/> Vent or Flare        |
| <input type="checkbox"/> Fracture Treat or Acidize | <input type="checkbox"/> Water Shut-Off       |
| <input type="checkbox"/> Other                     |   |

Date of work completion 7/21/98

Report results of Multiple Completions and Recompletions to different intervals on WELL COMPLETION OR RECOMPLETION REPORT AND LOG form.

\* Must be accompanied by a cement verification report.

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent data. If well is directionally drilled, give subsurface locations as measured and true vertical depths for all markers and zones pertinent to this work.)

Attached is a composite report and well sketch detailing the plugging operations for the above referenced well.

# RECEIVED

MAR 03 2000

DIVISION OF  
OIL, GAS AND MINING

13.

Name & Signature: James Qursland Title: Gulf Coast Eng. Mgr. Date: 3/2/00

(This space for State use only)

COPY SENT TO OFFICE

Date: 3-13-00

Initials: CHP

(See Instructions on Reverse)

Accepted by the  
Utah Division of  
Oil, Gas and Mining

FOR RECORD ONLY

22-141 50 SHEETS  
22-142 100 SHEETS  
22-144 200 SHEETS

Cave Creek Field

82' 30" Conductor

26'

226'

#

Pkr fluid

#

Packer Fluid

8.7# brine, 116 ZMC  
chelate, covr white, biocide

Pkr

1,680'

TDC

11,270'

11/97 CEF

#

5/2

5/2

CI

ab

5/2

n

12,30

1530'

INTERMEDIATE CASING  
0-4403', 13<sup>3/8"</sup>, 68#, L80  
4403'-5860', 13<sup>3/8"</sup>, 88#  
(circ cut to surface)

## PRODUCTION CLASING

5/31/98 13 3/8" x 7 5/8" / 7" Annulus  
squeezed w/ 300 sks CI 'G' (1.15 <sup>43</sup>/sk)  
6/2/98 13 3/8" x 7 5/8" / 7" Annulus  
squeezed w/ 300 sks CI 'G' (1.15 <sup>43</sup>/sk)  
and followed up w/ add'l 150 sks CI 'G'

5/28/98 Set Halco EZSV @ 11,400'  
 ✓ 5/29/98 Pumped 166 sks (191 ft³)  
 Cl 'G' below retainer, 18 sks (20.7 ft³)  
 above retainer

## PERFORMATIONS

11,782' - 11,872'  
11,960' - 12,050'  
12,066' - 12,156'

S/20 Set pump-thw plug in RN  
nipple at 11.674'

12,300 DTD

JPO  
6/98

05/20/98 Plugging day 1. 12,300' TD (0'). PO: Plug well. SITP 2975 psi, SICP (20") 700 psi, SICP (7-7/8") 2000 psi + 2M# gauge pegged out. Remove tree blankets and SI well. Bled off tree cap, ND tree cap and NU lube flange. RU Halco slick line. Test lube to 5M# w/Double Jack Testing. Run 2.180" gauge ring to 12'. Pump 15 gals methanol. Continue RIH to "RN" nipple @ 11,674'. POOH, PU 2.188" XRRN and pump through plug. RIH to 177' (appears to be pushing something downhole). Pump 80 gals methanol. POOH and PU 2-7/8" 6.5# scratcher. Hand jar to 1450' and RIH to 2000'. POOH, PU plug and RIH to 2900'. Started dragging again, moving 2' to 10' per minute to 3150'. POOH, PU scratcher, test lube and RIH to "RN" @ 11,674'. POOH, PU plug, test lube. RIH and set plug in "RN" @ 11,674'. POOH, blow down tbg to WGS. Portable flare to 100 psi. SDFN. SITP 150 psi, SICP (20") 700 psi, SICP (7-7/8") 1850 psi. *Note: appears there is a leak around the 20" @ surface.*

05/21/98 Plugging day 2. 12,300' TD (0'). PO: Plug well. Plug leaking. Flow tbg to WGS portable flare while NU flange. RU HB&R and Denny's Water Service. Pump 100 bbls freshwater down tbg. ND flange and set FMC BPV. Well on suction w/freshwater. Prep area around cellar for rig. Raised elevation approx. 14" in spots to clear cement around cellar ring. MI Keye Rockies rig no. 370. Could not spot rig due to heavy rain.

05/22/98 Plugging day 3. PO: Plug well. 12,300' TD (0'). Toolpusher and rig crew finish RU. Ready to start ND. *Reports suspended until 05/26/98.*

05/26/98 Plugging day 4. PO: Plug well. 12,300' TD (0'). SITP 2200 psi, SICP (20") 700 psi, SICP (13-3/8") 1920 psi. Contacted State of Utah (Jimmy Thompson) to BOP test could not attend. HU pump & lines, ND tree cap and NU comp flange. Pump 80 bbls of reserve pit water. ND tree and MU TIW and secure well. Remove valves, cut & cap SS lines to SCSSV and methanol injection mandrel. Remove TIW, MU test plug w/TIW. NU BOP & choke manifold. Test upper pipes, floor valves, and choke manifold to 5000# high and 300# low. Test annular to 3500# high and 300# low. Sent tree into WGS yard for shipment to SDFN.

05/27/98 Plugging day 5. PO: Plug well. SITP 100 psi, SICP (20") 700 psi, SICP (13-3/8") 1920 psi. HU pump & lines and pump 60 bbls water down tbg. Remove BPV and cut & cap 1/4" SS lines. Open SCSSV and leave 6M# on line. RU line spooler and pull SSV breaking all connections. LD SSV and pull to methanol injection mandrel. LD mandrel and continue LD tbg (194 jts total). SDFN. *Note: SSV & methanol mandrel delivered to WGS dock for shipment.*

05/28/98 Plugging day 6. SITP 0 psi, SICP (20") 700 psi, SICP (13-3/8") 2000+ psi. 7-5/8" Casing on vacuum. Finish LD tbg and load out. Send tbg and accs to Tuboscope for cleaning/inspection. RU OWP and PU 5.83" gauge ring & junk basket. RIH to 11,400', POOH and recovered 1 Otis plastic strap and 1 test plug "O" ring. PU Halco 7" EZSV CICR, RIH and set @ 11,400'. Start loading hole while POOH, 207 bbls (FL @ 5200'). RD OWP, test casing and CICR to 2M# 10 minutes - OK. Flow 13-3/8" annulus to flare stack. Start @ 2000+ psi, and after 6 hours decreased to 1400 psi. SDFN.

05/29/98 Plugging day 7. SITP 0 psi, SICP (20") 700 psi, SICP (13-3/8") 1440 psi. PU EZSV stinger & tbg to 11,408'. Sting into EZSV CICR. RU Dowell and pump 10 bbls water + 166 sks class "G" cement. Yield 1.15 wt, 15.8 ppg, 34 bbls slurry/ Displace w/61 bbls reserve pit water. Sting out and leave 18 sks on top of retainer. LD 4 jts tbg and reverse out 70 bbls. Pump 95 bbls pkr fluid and displace w/48 bbls reserve pit water. RD Dowell and LD 5 jts tbg. SDFN.

05/30/98 Plugging day 8. SITP 0 psi, SICP (20") 700 psi, SICP (13-3/8") 95 psi. LD 90 jts tbg. POOH and LD EZSV stinger. PU, RIH w/7" Halco CIBP and set @ 8630' (previously set @ 3304'). In fluid all the way, plug set. State of Utah contacted and informed of status.

05/31/98 Plugging day 9. SITP 0 psi, SICP (20") 700 psi, SICP (13-3/8") 60 psi. RU Dowell and pump 353 bbls water down 13-3/8" annulus. SD @ 250 bbls and monitor pressure. In 5 minutes pressure dropped from 250# to 20# @ 3.5 bpm. Finish pumping remainder of water @ 4 bpm. Establish injection @ 4 bpm @ 300#. Mix & pump 300 sks Class "G" cement w/2% CaCl @ 4 bpm. Pressure went from 20# to 300#. Displace w/40 bbls water @ 4 bpm. SD and SI w/140# on hard line. SDFN. Estimated TOC @ 430'.

06/01/98 Plugging day 10. SICP (7-5/8") 0 psi, SICP (20") 500 psi, SICP (13-3/8") slight blow. RU Dowell and 145 bbls into 13-3/8" and 7-5/8" annulus to catch pressure (153 bbls to 1200#). Pressure dropped to 200# in 1 minute. Pump 5 bbls to 1100#. Dropped to 6# in 15 minutes. Pump 27 bbls @ 2 bpm to 800#. Pumped into formation @ 1 bpm @ 800#. Release Dowell. LD 222 jts tbg and leave 52 jts in hole. SDFN.

06/02/98 Plugging day 11. SITP 0 psi, SICP (20") 600 psi, SICP (13-3/8") slight blow. RU Dowell and pump 300 sks Class "G" cement w/2% Cacl. Displace w/4 bbls water. XO and pump plug #2 in 7-5/8" @ 3304'. Pump 4 bbls water and 41 sks Class "G" cement w/2% CaCl. Displace w/17 bbls water. PIP @ 0800 hrs and LD 3 jts tbg. Roll hole w/packer fluid, 130 bbls. LD 84 jts tbg to 226'. Mix and pump 41 sks Class "G" cement w/2% CaCl. Displace w/1/2 bbl water and LD 7 jts tbg. PIP @ 1100 hrs. XO to 13-3/8" 7-5/8" annulus and fill w/100 bbls packer fluid. Pressure up to 800 psi @ 112 bbls. SD and dropped to 200 psi in 1 minute. Pump back up to 1020 psi. SD and dropped to 100 psi in 1 minute and holding. Pressure up to 1000 psi @ 124 bbls. Pump into plug @ 1000 psi @ 1 bpm. Mix & pump 10 bbls 5.5% CaCl water and tail in w/150 sks Class "G" cement w/2% Cacl. Wash up on top of plug 8 bbls. SD and start RD service unit. SDFN.

**Plugs set as follows:**

Plug #1 @ 11,400'  
Plug #2 @ 3304'  
Plug #3 @ 226'

06/03/98 Plugging day 12. SITP 0 psi, SICP (20") 0 psi, SICP (13-3/8") vacuum. ND 7-1/16" tbg head. RD MO Key Rockies rig no. 370. Note: tbg head and two 2-9/16" 5M# valves shipped to FMC in OKC 06/03/98. Future operations: pressure check 13-3/8" 7-5/8" annulus 06/04/98 or 06/05/98. **FINAL REPORT.**

06/04/98 Plugging day 13. SITP 0 psi, SICP (20") 0 psi, SICP (13-3/8") vacuum. RU Dowell and Denny's Water Service. Pump 53 bbls of water in 13-3/8" 7-5/8" annulus. Pressure to 1050# @ 61 bbls. SD to observe well. Lost 200 psi. Bled off air. Pressure up to 1100 psi @ 61.8 bbls. Monitor pressures as follows: 800 psi in 10 minutes, 700 psi in 15 minutes, 635 psi in 20 minutes, 575 psi in 25 minutes, 535 psi in 30 minutes. SI well @ 535 psi. RD Dowell and SD.

06/24/98 Plugging day 14. RU DS and Denny's Water Service. Mix & pump 20 sks Class "G" cement + 3% CaCl mixed @ 15.8 ppg. Yield 4.04 bbls slurry. Annular vol = 43'. Pump @ .25 bpm to 4M# and displace w/3.4 bbl water. SI w/3600 psi on csg. Annulus is 13-3/8"/7-5/8". RU on 20" 13-3/8" annulus. Mix & pump 31

sk Class "G" w/3% CaCl. Pump @ 16.0+ ppg. Yield 1.15 6 bbls slurry, annular vol = 35'. Pump @ .25 bpm to 1800 psi. SD and shut in w/1700 psi on csg. RD Dowell Schlumberger and Denny's Water Service. Denny's Water Service pulled wash up fluid out of hole and put in reserve pit.

07/16/98 Plugging day 15. Bled pressures from 20" 13-3/8" annulus and from 13-3/8" 7-5/8" annulus. Valves OB both cemented up. Remove bull plugs from each to bleed. RU welder and cut off 30" conductor. Cut windows in 20" and had cement solid behind 20". Clean cement between windows. Cut windows in 13-3/8", had gas in annulus, no cement. Cut off 7-5/8". Finish cutting off wellhead. Haul to Elkhorn Yard and will send to FMC in Rock Springs for repairs. Ran 100' tape down 7-5/8", cement @ 26". Conduct same procedure between 13-3/8" and 7-5/8" for 100'. No cement, encountered water @ 30'. Propose finish top out w/Redi-Mix with pea gravel.

07/21/98 Plugging day 16. PO: P&A well. Fill 7-5/8" and 13-3/8" annulus with 6 cubic yards of 5 bag chip grout. Fill 7-5/8" to top. Fill 13-3/8" 10' from top of casing to the grout mix. Fill to the top w/cement. Will install dryhole marker ASAP.  
**FINAL PLUGGING REPORT.**

09/15/98 Reclamation day 1. C. W. Wilson Construction, Inc. commenced reclaim.

09/16/98

to

09/25/98 Reclamation day 2. Lego evaporated reserve pit w/evaporate system. Remainder of mud mixed in with trackhoe with at least 4' of soil placed on top. Seeded location w/200 lbs. Seed. Seed mixture per Castle Rock Land & Livestock. Building (brown) and antenna left on location per agreement with UPR and landowner, Dave Allen. Total reclamation days = 10. **FINAL RECLAMATION REPORT.**

STATE OF UTAH  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

FORM 9

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

1. TYPE OF WELL OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> OTHER _____		5. LEASE DESIGNATION AND SERIAL NUMBER:
2. NAME OF OPERATOR: Anschutz Exploration Corporation		6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
3. ADDRESS OF OPERATOR: 555 17th St, Ste 2400 CITY Denver STATE CO ZIP 80202		7. UNIT or CA AGREEMENT NAME:
4. LOCATION OF WELL FOOTAGES AT SURFACE: 533' FNL & 1702 FWL		8. WELL NAME and NUMBER: AL&L 4-30
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: NENW 30 5 N 8 E		9. API NUMBER: 4304330316
COUNTY: SUMMIT		10. FIELD AND POOL, OR WILDCAT: Cave Creek, Phosphoria
STATE: UTAH		

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
<input type="checkbox"/> NOTICE OF INTENT (Submit in Duplicate) Approximate date work will start: _____	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> REPERFORATE CURRENT FORMATION
	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> SIDETRACK TO REPAIR WELL
	<input type="checkbox"/> CASING REPAIR	<input type="checkbox"/> NEW CONSTRUCTION	<input type="checkbox"/> TEMPORARILY ABANDON
	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> TUBING REPAIR
	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> VENT OR FLARE
<input checked="" type="checkbox"/> SUBSEQUENT REPORT (Submit Original Form Only) Date of work completion: 3/1/1997	<input type="checkbox"/> CHANGE WELL NAME	<input type="checkbox"/> PLUG BACK	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> PRODUCTION (START/RESUME)	<input type="checkbox"/> WATER SHUT-OFF
	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input checked="" type="checkbox"/> OTHER: LOG RECORDS
	<input type="checkbox"/> CONVERT WELL TYPE	<input type="checkbox"/> RECOMPLETE - DIFFERENT FORMATION	

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

This is to advise the State that the Neutron Density Log run in the Anschutz Exploration Corporation AL&L 4-30 was run from 9,760' to 12,890' (TD). Prior records incorrectly indicated that the log was run from 5,860' to TD.

NAME (PLEASE PRINT) Ardith Barbosa	TITLE Operations Technician
SIGNATURE <i>Ardith Barbosa</i>	DATE 6/17/2009

(This space for State use only)

RECEIVED  
JUN 22 2009  
DIV. OF OIL, GAS & MINING